



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

CAMBRIA
STEEL BARS
AND
"GAUTIER"
SPECIALTIES

Eng 319.17



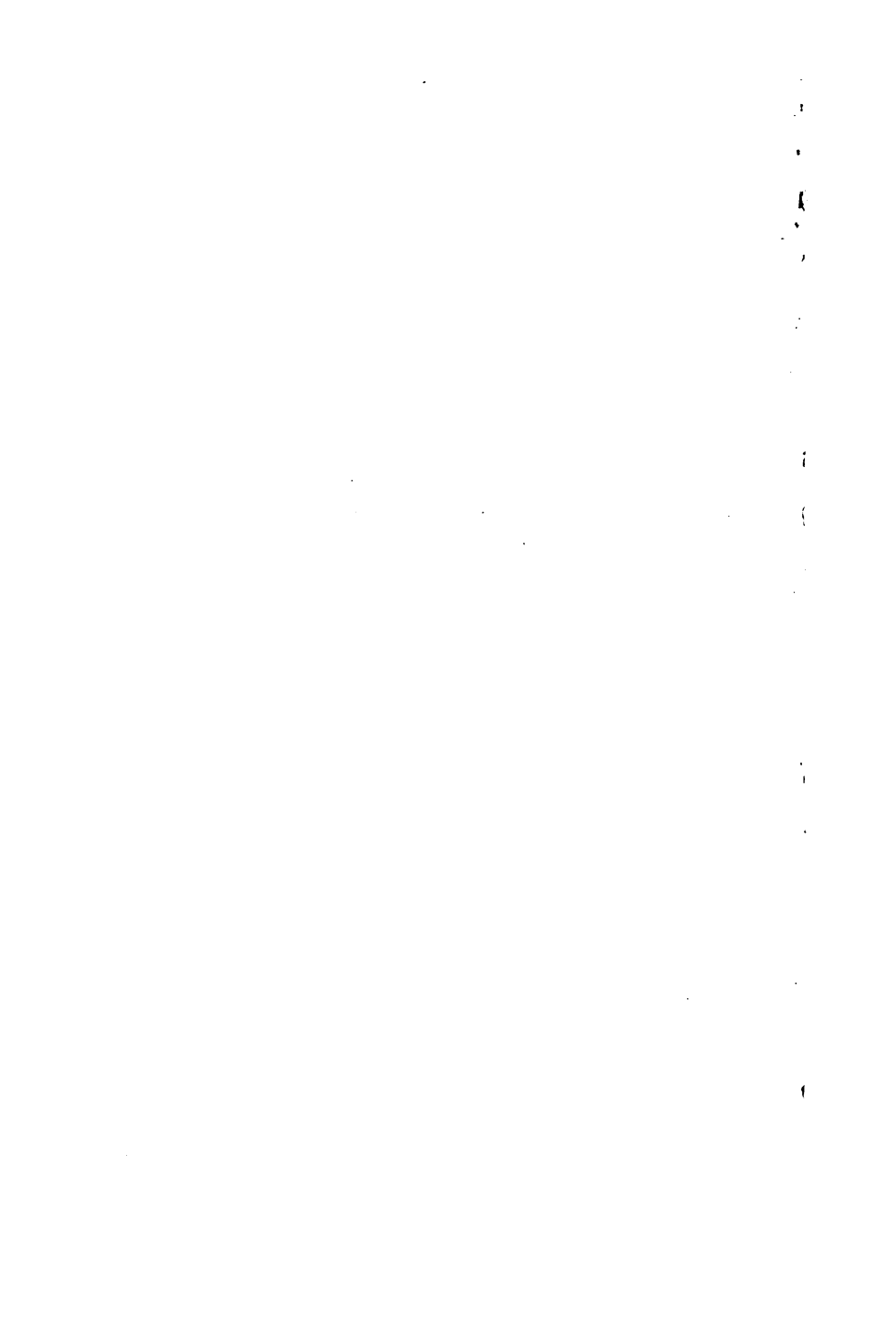
Harvard College Library

FROM









C

C A M B R I A

STEEL BARS

AND

“GAUTIER” SPECIALTIES

MERCHANT STEEL AND BAR PRODUCTS,
AUTOMOBILE AND MOTOR TRUCK STEEL,
COLD-ROLLED AND COLD-DRAWN STEEL,
MACHINERY STEEL,
SOFT STEEL,
SPRING STEEL,
AGRICULTURAL STEEL AND SHAPES,
PLOW STEEL, ETC.

1917

CAMBRIA STEEL COMPANY

GENERAL SALES OFFICES:

WIDENER BLDG., PHILADELPHIA, PA.

WORKS AT JOHNSTOWN, PA.

U. S. A.

HARVARD UNIVERSITY LIBRARY

JAN 22 1919

RECEIVED THROUGH THE SPECIAL
LIBRARY OF THE GRADUATE SCHOOL
OF BUSINESS ADMINISTRATION



Copyright, 1917,
by

CAMBRIA STEEL COMPANY.

**OFFICES FOR SALE OF
CAMBRIA STEEL COMPANY PRODUCTS.**

GENERAL SALES OFFICES:

**WIDENER BUILDING
PHILADELPHIA, PA., U. S. A.**

SALES OFFICES:

ATLANTA	Candler Building.
BOSTON	Scollay Building.
CHICAGO	McCormick Building.
CINCINNATI	Union Trust Building.
CLEVELAND	Swetland Building.
DETROIT	Penobscot Building.
JOHNSTOWN	Cambria Building
NEW YORK	City Investing Building.
PHILADELPHIA	Widener Building.
PITTSBURGH	Oliver Building.
ST. LOUIS	Chemical Building.
SALT LAKE CITY	Newhouse Building.
SAN FRANCISCO	Monadnock Building.
SEATTLE	Colman Building.

**WORKS AT
JOHNSTOWN, PA.
U. S. A.**

OTHER PRODUCTS OF CAMBRIA STEEL COMPANY.

INGOTS, BILLETS, BLOOMS AND SLABS.

STRUCTURAL STEEL.

Beams, Channels, Angles, etc.

STRUCTURAL STEEL WORK.

Finished Steel Work for Buildings, including Beams, Girders, Columns, Roof Trusses, etc., fitted complete and ready for erection.

STEEL CARS.

Gondola, Hopper-Gondola, Hopper, Flat, Tank, etc.
Underframes and Trucks.

Steel Box Cars and Steel Mine Cars.

STEEL RAILS.

Steel T-Rails, 12 pounds to 150 pounds per yard.

Angle, Plain and Special Type Splice Bars.

Standard and Special Track Bolts and Nuts.

For detailed information, see Rail Catalogue.

STEEL AXLES.

Passenger Car, Freight Car, Tender Truck, Engine
Truck, Driving, Motor, Street Car,
Electric Car, Mine Car, etc.

CRANK PINS, PISTON RODS.

Crank Pins and Piston Rods made to any requirement.

MACHINE BOLTS, NUTS, RIVETS, AND PIPE OR TANK BANDS WITH ROLLED THREADS.

WIRE PRODUCTS.

Wire Rods, Nails, Wire Fence and Bale Ties.

Barbed Wire, Fence Wire, Bolt,

Screw and Rivet Wire, etc.

NON-STEEL PRODUCTS.

Copperas, Cinder, Slag, Limestone Ballast and
Screenings, Coal Derivatives: Ammonia,
Benzol, Toluol, Naphtha, etc.

INTRODUCTION.

The products listed and shown herein are manufactured from the celebrated CAMBRIA STEEL, each heat of which is made to special order to meet the requirements of the use specified, and is subjected to chemical analyses and physical tests.

All our products are manufactured from solid billets or slabs, by the best methods, machinery and workmen, and we stand pledged to maintain the high standard of excellence for which Cambria products are famous.

On account of the very large variety and number of special shapes, particularly those for agricultural implements, it is impossible to show or list all of these within the limits of this book. We are constantly adding to our line of these products and can make anything wanted that is embraced in the general classes of manufactures shown.

GENERAL INFORMATION.

The products herein presented are listed in two general classes, alphabetically arranged in each and with cross references where necessary for convenience.

In addition to this a complete index is given on the last pages.

Section A, pages 7 to 146 comprises, in general, a description of Bar Steel Products of various kinds and grades for diverse uses.

Section B, pages 148 to 219 includes Agricultural Steel and parts used in the manufacture of farm implements and machinery.

A third section, pages 222 to 253 includes considerable tabular data, applicable to the foregoing products. It embraces Tables of Weights, Gauges, and Metric Conversion Factors; also a compendium of rules and formulæ for Mensuration.

Unless specifically stated otherwise, all gauge numbers used herein refer to the Birmingham or Stubs Iron Wire Gauge, (B.W.G.)

SECTION A.

BAR STEEL PRODUCTS.

**Rounds, Squares and Flats.
Ovals, Half Rounds, Half Ovals,
Hexagons, Octagons,
Etc.**

**ANGLES, CHANNELS AND T-BARS.
SPECIAL SHAPES.**

**AUTOMOBILE AND MOTOR TRUCK
SECTIONS.**

COLD ROLLED AND COLD DRAWN STEEL.

**Rounds, Squares, Flats, Hexagons, Etc.
Piston Rods, Shafting, Screw Steel,
Roller Bearing Steel, Etc.**

ANGLES (EQUAL LEGS).



Weight in Pounds per Lineal Foot for Each Size.

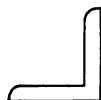
(Weights of A. A. S. M. Standard Angles are shown in heavy type.)

Section Number	Dimensions Inches	Thickness—Inches							
		$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$
A-36	$\frac{3}{4} \times \frac{3}{4}$	.59	.84	....	....	....	....	....	....
A-37	1 x 1	.80	1.16	1.49	....	....	....	....	....
A-38	$1\frac{1}{4} \times 1\frac{1}{4}$	1.01	1.48	1.92	....	....	....	....	....
A-11	$1\frac{1}{2} \times 1\frac{1}{2}$	1.23	1.80	2.34	2.86	3.35	....	....	....
A-40	$1\frac{3}{4} \times 1\frac{3}{4}$	....	2.12	2.77	3.39	3.99	....	....	....
A-15	2 x 2	1.65	2.44	3.19	3.92	4.7	5.3	6.0	....
A-41	$2\frac{1}{4} \times 2\frac{1}{4}$	....	2.75	3.62	4.5	....	....	....	....
A-17	$2\frac{1}{2} \times 2\frac{1}{2}$	2.08	3.07	4.1	5.0	5.9	6.8	7.7	....
A-43	$2\frac{3}{4} \times 2\frac{3}{4}$	....	....	4.5	5.6	6.6	....	....	....
A-19	3 x 3	....	....	4.9	6.1	7.2	8.3	9.4	10.4
A-21	$3\frac{1}{2} \times 3\frac{1}{2}$	....	....	....	7.2	8.5	9.8	11.1	12.4
A-23	4 x 4	....	....	....	8.2	9.8	11.3	12.8	14.3
A-47	5 x 5	....	....	....	....	12.3	14.3	16.2	18.1
A-27	6 x 6	....	....	....	....	14.9	17.2	19.6	21.9
A-35	8 x 8	....	....	....	....	....	....	26.4	29.6

For properties, safe loads and other structural data of standard and special angles, see our structural handbook "CAMBRIA STEEL."

CAMBRIA STEEL COMPANY.

ANGLES (EQUAL LEGS).



Weight in Pounds per Lineal Foot for Each Size.

(Weights of A. A. S. M. Standard Angles are shown in heavy type)

Thickness—Inches									Section Number
$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	$\frac{15}{16}$	1	$1\frac{1}{16}$	$1\frac{1}{8}$	
.....	.....	.....	.....	.....	.....	.....	.....	.....	A-36
.....	.....	.....	.....	.....	.....	.....	.....	.....	A-37
.....	.....	.....	.....	.....	.....	.....	.....	.....	A-38
.....	.....	.....	.....	.....	.....	.....	.....	.....	A-11
.....	.....	.....	.....	.....	.....	.....	.....	.....	A-40
.....	.....	.....	.....	.....	.....	.....	.....	.....	A-15
.....	.....	.....	.....	.....	.....	.....	.....	.....	A-41
.....	.....	.....	.....	.....	.....	.....	.....	.....	A-17
.....	.....	.....	.....	.....	.....	.....	.....	.....	A-43
.....	.....	.....	.....	.....	.....	.....	.....	.....	A-19
13.6	14.8	16.0	17.1	18.3	.....	.....	.....	.....	A-21
15.7	17.1	18.5	19.9	21.2	.....	.....	.....	.....	A-23
20.0	21.8	.....	.....	.....	.....	.....	.....	.....	A-47
24.2	26.5	28.7	31.0	33.1	35.3	37.4	.....	.....	A-27
32.7	35.8	38.9	42.0	45.0	48.1	51.0	54.0	56.9	A-35

For properties, safe loads and other structural data concerning standard and special angles, see our structural handbook entitled "CAMBRIA STEEL."

ANGLES (UNEQUAL LEGS).



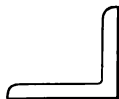
Weight in Pounds per Lineal Foot for Each Size.

(Weights of A. A. S. M. Standard Angles are shown in heavy type.)

Section Number	Dimensions Inches	Thickness—Inches					
		$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$
A-81	1 x $\frac{3}{4}$	.69	....	....	....	....	....
A-113	$1\frac{3}{8}$ x $\frac{1}{2}$	.93	....	....	....	....	....
A-115	$1\frac{1}{2}$ x $\frac{3}{4}$	.91	....	....	....	....	....
A-117	$1\frac{3}{4}$ x $1\frac{1}{8}$	....	....	....	2.73	....	....
A-119	$1\frac{3}{4}$ x $1\frac{1}{4}$	....	1.80	....	....	....	....
A-139	2 x $1\frac{1}{4}$	....	1.96	....	....	....	....
A-123	2 x $1\frac{1}{2}$	1.47	2.12	2.77	....	....	....
A-127	$2\frac{1}{2}$ x $1\frac{1}{2}$	....	2.44	3.19	....	....	....
A-91	$2\frac{1}{2}$ x 2	....	2.75	3.62	4.5	5.3	6.1
A-129	3 x 2	....	3.07	4.1	5.0	5.9	6.8
A-93	3 x $2\frac{1}{2}$	....	....	4.5	5.6	6.6	7.6
A-95	$3\frac{1}{2}$ x $2\frac{1}{2}$	....	....	4.9	6.1	7.2	8.3
A-97	$3\frac{1}{2}$ x 3	....	....	....	6.6	7.9	9.1
A-99	4 x 3	....	....	....	7.2	8.5	9.8
A-131	4 x $3\frac{1}{2}$	....	....	....	7.7	9.1	10.6
A-101	5 x 3	....	....	....	8.2	9.8	11.3
A-103	5 x $3\frac{1}{2}$	....	....	....	8.7	10.4	12.0
A-135	5 x 4	....	....	....	....	11.0	12.8
A-105	6 x $3\frac{1}{2}$	....	....	....	....	11.7	13.5
A-107	6 x 4	....	....	....	....	12.3	14.3
A-109	7 x $3\frac{1}{2}$	....	....	....	....	....	15.0
A-112	8 x 6	....	....	....	....	....	....

For properties, safe loads and other structural data concerning standard and special angles, see our structural handbook entitled "CAMBRIA STEEL."

ANGLES (UNEQUAL LEGS).



Weight in Pounds per Lineal Foot for Each Size.

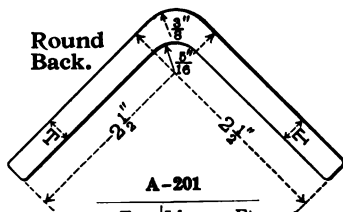
(Weights of A. A. S. M. Standard Angles are shown in heavy type.)

Thickness—Inches									Section Num- ber
$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	$\frac{15}{16}$	1	
....	....	....	....	....	....	....	....	....	A- 81
....	....	....	....	....	....	....	....	....	A-113
....	....	....	....	....	....	....	....	....	A-115
....	....	....	....	....	....	....	....	....	A-117
....	....	....	....	....	....	....	....	....	A-119
....	....	....	....	....	....	....	....	....	A-139
....	....	....	....	....	....	....	....	....	A-123
....	....	....	....	....	....	....	....	....	A-127
6.8	....	....	....	....	....	....	....	....	A- 91
7.7	....	....	....	....	....	....	....	....	A-129
8.5	9.5	....	....	....	....	....	....	....	A- 93
9.4	10.4	....	12.5	13.4	....	....	....	....	A- 95
10.2	11.4	12.5	13.6	14.7	15.8	16.8	....	....	A- 97
11.1	12.4	13.6	14.8	16.0	17.1	18.3	....	....	A- 99
11.9	13.3	14.7	16.0	....	....	....	....	....	A-131
12.8	14.3	15.7	17.1	18.5	19.9	21.2	....	....	A-101
13.6	15.2	16.8	18.3	19.8	21.3	22.7	24.2	....	A-103
14.5	16.2	17.8	19.5	....	....	....	....	....	A-135
15.3	17.1	18.9	20.6	22.4	24.0	25.7	27.3	28.9	A-105
16.2	18.1	20.0	21.8	23.6	25.4	27.2	28.9	30.6	A-107
17.0	19.1	21.0	23.0	24.9	26.8	28.7	30.5	32.3	A-109
23.0	25.7	28.5	31.2	33.8	36.5	39.1	41.7	44.2	A-112

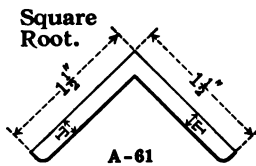
For properties, safe loads and other structural data, concerning standard and special angles, see our structural handbook entitled "CAMBRIA STEEL."

ANGLES—SPECIAL SHAPES.

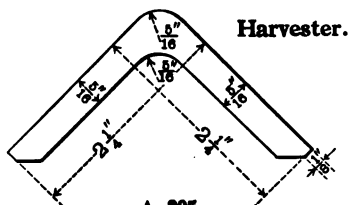
For Bulb and Top Guard Angles, see "BULB ANGLES"



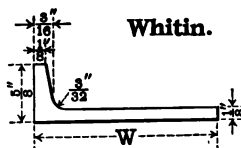
T	Lbs. per Ft.
1"	4.1
1 1/8"	5.0



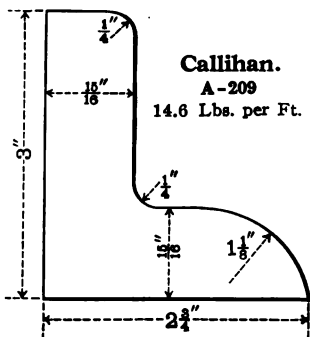
T	Lbs. per Ft.
1"	1.23
1 1/8"	1.80



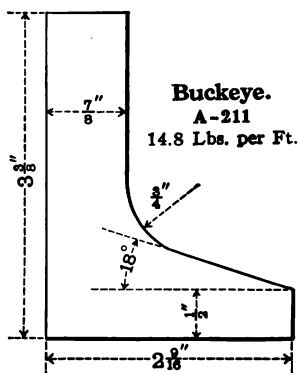
A-205
4.4 Lbs. per Ft.



No.	W	Lbs. per Ft.
A-207	1 1/8"	.73
A-338	1 1/8"	1.07



Callihan.
A-209
14.6 Lbs. per Ft.



Buckeye.
A-211
14.8 Lbs. per Ft.

AUTOMOBILE STEEL.

Special Steel for Automobile Forgings and Machined Parts.

High Grade Automobile Spring Steel.

Round, Square and Flat Bars and Shapes for Motor-Truck Construction.

TENSILIA Steel for Motor-Truck Axles.

RESILIA, ENDURIA and other special steels for the highest grades of springs.

Selected materials, improved facilities, and the most careful supervision in manufacture, enable us to guarantee quality unsurpassed.

Write for further information, stating your requirements.



AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.

We make all kinds and sizes of automobile and motor-truck rim sections, some of the examples of which are shown by the cuts on the following pages.

These include Rims, Flanges, Side Rings, Center Rings, Locking Rings, etc., of the following designations:

"Standard," "Universal," "Gilbert," "Consolidated," "Republic," "Swinehart," "Firestone," "Revere," "Bryant," "Booth," "Fisk," "Good-year," "Goodrich," "Cleveland," "Kelsey," "Baker," "Marsh," etc.

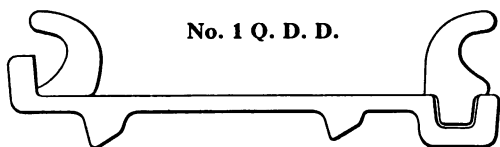
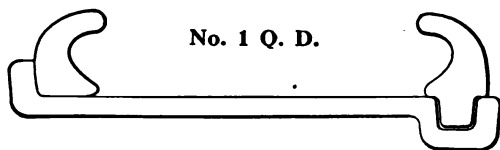
We have special facilities for rolling these true and exact to dimensions, and with exceptionally smooth finish.

By special arrangement, other sections, not shown herein, will be manufactured.



AUTOMOBILE RIM SECTIONS.

These sketches show the general arrangement and position in use of the Standard Universal No. 1 quick detachable and quick detachable demountable rim, and ring sections.



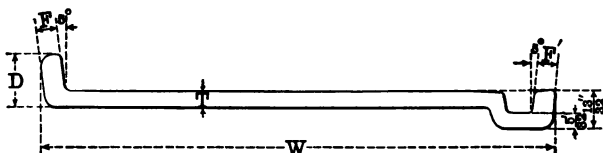
The side rings for the foregoing types are reversible as shown, thereby adapting the equipment for use with either clincher or straight side pneumatic tire.

We roll these sections so accurately that no machining is required.

AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

Standard No. 1 Universal Q. D. Rims.

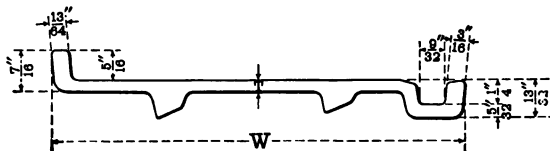
Type 50.



Customer's Number	Section Number	Rim	Tire Size	W	T	D	F	F'	Weight per Foot
			Inches	Ins.	Ins.	Ins.	Ins.	Ins.	Pounds
118	W-82	D	3½	3½	5/17	1½	1½	3/16	2.27
119	W-83	E	4	3 7/8	5/17	1½	1½	3/16	2.46
120	W-84	F	4½ & 5	4 3/8	1 1/4	1½	1½	3/16	2.94

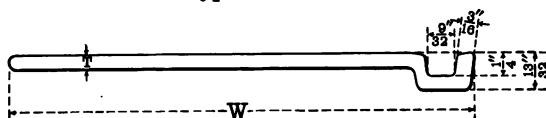
Standard No. 1 Universal Rims Q. D. D.

Type 40.



Customer's Number	Section Number	Rim	Tire Size	W	T	Weight per Foot
			Inches	Inches	Inches	Pounds
111	W-85	D	3½	3½	1/8	2.42
112	W-86	E	4	3 7/8	1/8	2.55
122	W-87	F	4½ & 5	4 1/2	1/8	2.75

**Standard No. 1 Universal Rims.
Clincher Rims Q. D.
Types 51 and 52.**



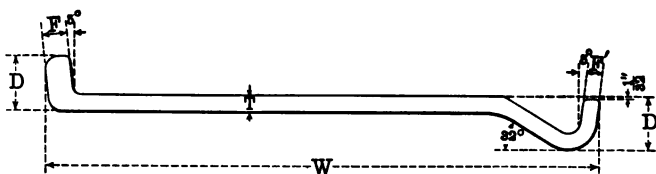
Section Number	Customer's Number	Rim	Tire Size	W	T	Weight per Foot
			Inches	Inches	Inches	Pounds
W-88	105	D	3½	3½	⅓	2.25
W-89	106	E	4	4⅜	⅓	2.45
W-90	107	F	4½ & 5	4½	.175	3.11

Section Number	Customer's Number	Rim	Tire Size	W	T	E	Weight per Foot
			Inches	Inches	Inches	Inches	Pounds
W-91	109	E	4	4 $\frac{3}{16}$	$\frac{1}{8}$	$\frac{5}{32}$	2.60
W-92	110	F	4 $\frac{1}{2}$ & 5	4 $\frac{1}{16}$	$\frac{1}{4}$	.175	2.96

AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.

(Continued)

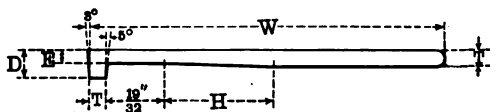
Standard No. 2 Universal Q. D. Rims.



Section No.	Customers' No.	Rim	Tire Size	W	T	D	D'	F	F'	Weight per Ft. Pounds
W-93	217	C	3	3 $\frac{1}{4}$	$\frac{1}{8}$	$\frac{3}{8}$	$\frac{23}{64}$	$\frac{11}{64}$	$\frac{1}{8}$	1.60
W-94	218	D	3 $\frac{1}{2}$	3 $\frac{1}{2}$	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{23}{64}$	$\frac{11}{64}$	$\frac{3}{32}$	2.20
W-95	219	E	4	4 $\frac{1}{4}$	$\frac{5}{32}$	$\frac{1}{4}$	$\frac{23}{64}$	$\frac{7}{32}$	$\frac{1}{8}$	2.47
W-96	220	F	4 $\frac{1}{2}$ & 5	4 $\frac{3}{4}$	$\frac{11}{64}$	$\frac{31}{64}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{11}{64}$	3.06

Standard No. 3 Rims.

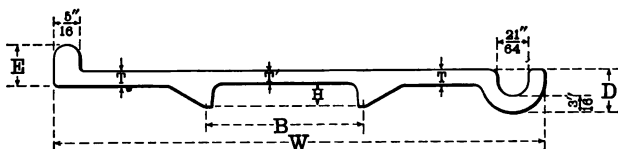
"Gilbert"—Single



Section Number	Customers' Number	W	D	T	E	H	Weight per Foot Pounds
W-98	302	2 $\frac{7}{8}$	.260	.156	$\frac{1}{8}$	$\frac{7}{16}$	1.50
W-100	304	3	.260	.156	$\frac{1}{8}$	$\frac{13}{16}$	1.60
W-104	312	3 $\frac{5}{16}$	.294	.175	.14	$1\frac{1}{8}$	1.98
W-102	306	3 $\frac{11}{16}$	.294	.175	.14	$1\frac{1}{8}$	2.20

AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

"Goodyear Ideal" Rims.

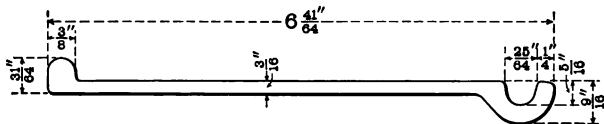


Section Number	Rim	W	B	D	E	H	T	T'	Weight per Foot
	Inches	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Pounds
W-117	E-4	3 3/4	1 9/16	1 1/2	2 5/8	1/4	.156	.156	2.90
W-118	F-4 1/2-5	4 3/4	1 3/4	1 3/4	2 7/8	1/4	.175	.140	3.30
W-119	G-5 1/2-6	5 3/4	1 7/8	1 3/4	3 1/8	1/4	.175	.156	3.83

W-147.

"Goodyear Ideal" 7-Inch.

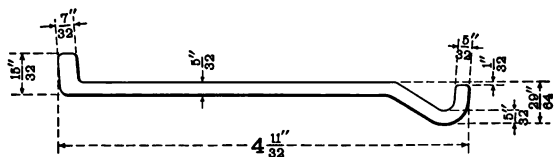
5.10 Lbs. per Ft.



W-124.

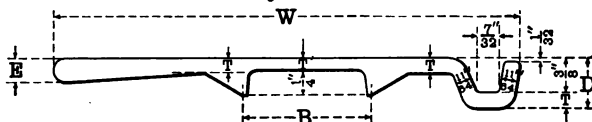
"Goodyear" 105 MM.

2.62 Lbs. per Ft.



AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

"Goodyear" Rims.

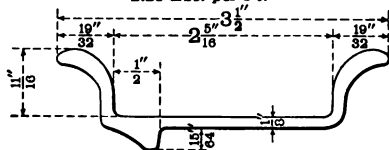


Section Number	Rim	W	B	D	E	T	T'	Weight per Ft.
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Pounds
W-120	D-3½	3⅞	⅝	1⅞	1/4	5/32	1/8	2.80
W-121	E-4	4⅞	1⅞	1⅞	1/4	5/32	1/8	3.00
W-122	F-4½ & 5	4⅞	1⅞	1⅞	1/4	1/16	5/64	3.55

W-180.

"Kelsey" No. 219—3½ Inch.

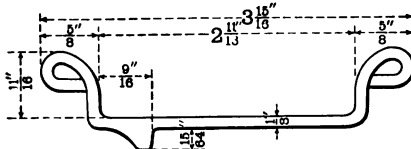
2.28 Lbs. per Ft.



W-181.

"Kelsey" No. 217—4 Inch.

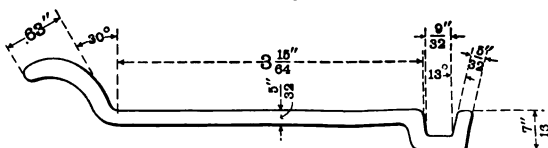
2.75 Lbs. per Ft.



W-183.

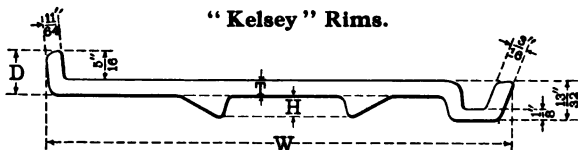
"Kelsey" No. 222—4½ Inch.

3.06 Lbs. per Ft.



AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

"Kelsey" Rims.

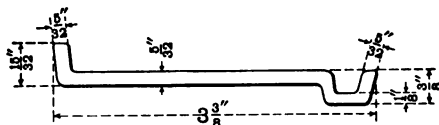


Section Number	Customer's Number	W	D	H	T	Weight per Foot Pounds
		Inches	Inches	Inches	Inches	
W-111	149	4 ⁷ / ₁₆	2 ²¹ / ₆₄	1 ¹ / ₂	5 ⁹ / ₆₄	2.90
W-112	150	5 ³ / ₁₆	1 ¹¹ / ₃₂	1 ¹⁷ / ₃₂	5 ¹ / ₃₂	3.60
W-114	169	4 ¹¹ / ₁₆	1 ¹¹ / ₃₂	1 ⁷ / ₃₂	5 ¹ / ₃₂	3.34

W-110.

"Kelsey" No. 117.

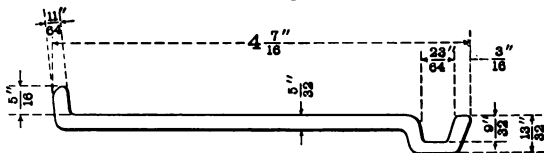
2.07 Lbs. per Ft.



W-182.

"Kelsey" No. 221—4 1/2-Inch.

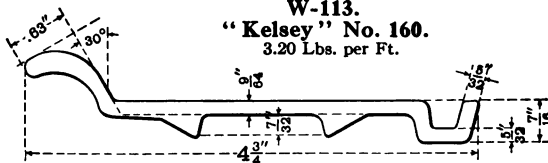
2.63 Lbs. per Ft.



W-113.

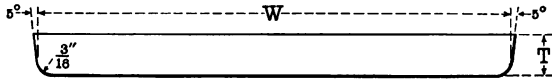
"Kelsey" No. 160.

3.20 Lbs. per Ft.



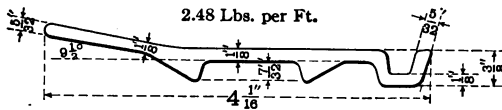
AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

"Standard" Base Stock.

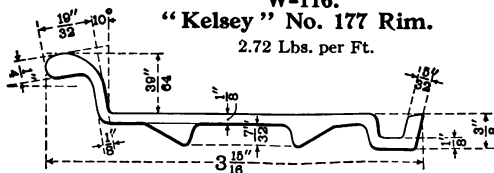


Section Number	Width W	Thickness T	Weight per Foot
	Inches	Inches	Pounds
W-151	3	.512	5.23
"	3½	.512	6.10
"	3.54	.512	6.16
"	4	.512	6.97
"	6	.512	10.45
W-152	3.93	.562	7.52
"	4.71	.562	9.00
"	5	.562	9.56
"	5½	.562	10.52
"	6	.562	11.48
W-153	3½	.625	7.44
"	4	.625	8.50
"	5	.625	10.63
"	6	.625	12.75
"	6.28	.625	13.35
"	7	.625	14.88
"	13	.625	27.63

W-115.
"Kelsey" No. 176 Rim.

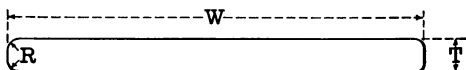


W-116.
"Kelsey" No. 177 Rim.



AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

"Standard" Bands.



S. A. E. Bands.

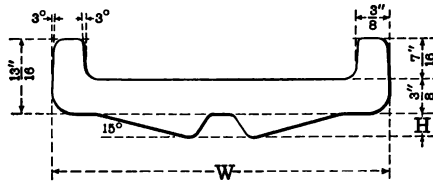
Section Number	W	T	R	Weight per Foot
	Inches	Inches	Inches	Pounds
W-148	1 $\frac{1}{4}$	$\frac{1}{8}$	$\frac{3}{32}$	1.49
"	2 $\frac{1}{4}$	$\frac{1}{8}$	$\frac{3}{32}$	1.91
"	2 $\frac{3}{4}$	$\frac{1}{8}$	$\frac{3}{32}$	2.34
"	3 $\frac{1}{4}$	$\frac{1}{8}$	$\frac{3}{32}$	2.76
W-149	3 $\frac{3}{4}$	$\frac{1}{8}$	$\frac{3}{32}$	4.78
"	4 $\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$	5.42
"	5	$\frac{1}{8}$	$\frac{1}{8}$	6.38
"	5 $\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$	6.69
"	6	$\frac{1}{8}$	$\frac{1}{8}$	7.65
"	6 $\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$	7.97
"	7	$\frac{1}{8}$	$\frac{1}{8}$	8.93
"	8	$\frac{1}{8}$	$\frac{1}{8}$	10.20
"	9	$\frac{1}{8}$	$\frac{1}{8}$	11.48
"	10	$\frac{1}{8}$	$\frac{1}{8}$	12.75
"	12	$\frac{1}{8}$	$\frac{1}{8}$	15.30
"	14	$\frac{1}{8}$	$\frac{1}{8}$	17.85

Intermediate Bands.

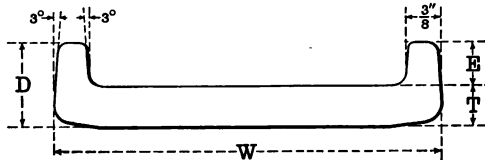
W-150	4	.406	$\frac{1}{8}$	5.53
"	4 $\frac{1}{2}$	.406	$\frac{1}{8}$	6.22
"	5	.406	$\frac{1}{8}$	6.91
"	6	.406	$\frac{1}{8}$	8.29
"	7	.406	$\frac{1}{8}$	9.67
"	8	.406	$\frac{1}{8}$	11.05
"	9	.406	$\frac{1}{8}$	12.43
"	11	.406	$\frac{1}{8}$	15.20
"	13	.406	$\frac{1}{8}$	17.96
"	15	.406	$\frac{1}{8}$	20.72

AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

“Standard” Base Bands.



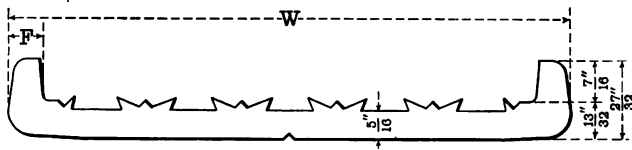
Section Number	Customer's Number	Tire Size	W	H	Weight per Foot
		Inches	Inches	Inches	Pounds
W-140	5	2 1/2	3 1/8	3 1/8	5.54
W-141	8	3	3 9/16	1 1/4	6.56



Section Number	Customer's Number	Tire Size	W	D	T	E	Weight per Foot
		Inches	Inches	Inches	Inches	Inches	Pounds
W-154	6	2 1/2	3 1/8	2 1/2	1 1/2	7/8	5.15
W-155	7	3	3 1/8	2 1/2	1 1/2	7/8	5.84
W-142	1	3 1/2	4 1/8	2 1/2	1 1/2	7/8	6.94
W-143	2	4	4 9/16	2 1/2	1 1/2	7/8	8.64
W-144	4	5	5 1/8	2 1/2	1 1/2	7/8	10.34

AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

“Kelsey” Base Bands.

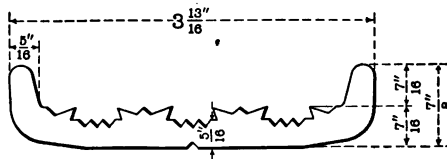


Section Number	Customer's Number	Tire Size	W	F	Weight per Foot
		Inches	Inches	Inches	Pounds
W-172	211	4	4 $\frac{13}{16}$	1 $\frac{11}{16}$	6.43
W-173	212	5	5 $\frac{7}{8}$	1 $\frac{3}{8}$	7.79
W-174	213	6	6 $\frac{13}{16}$	1 $\frac{3}{8}$	9.25
W-175	214	7	8	1 $\frac{7}{16}$	10.34

W-176.

3 Inch Tire Size—Kelsey No. 201.

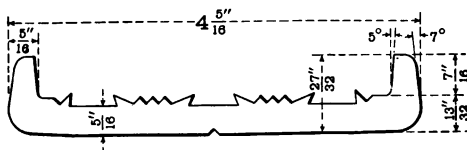
4.90 Lbs. per Ft.



W-171.

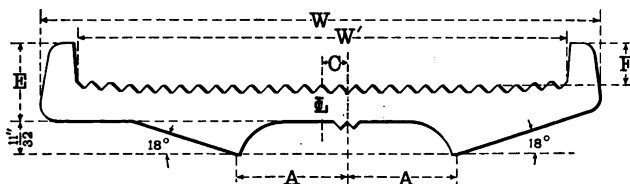
3 1/2 Inch Tire Size—Kelsey No. 210.

5.92 Lbs. per Ft.



AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

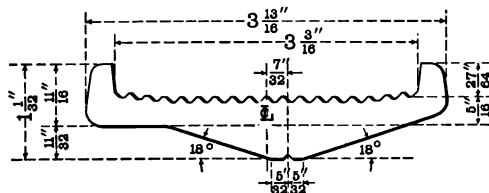
“Goodyear S.J.” Base Bands.



Section Number	Tire Size	W	W'	A	C	E	F	Weight per Ft.
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Pounds
W-158	3½	4 3/8	3 1/8	1 1/8	1/4	3/4	3 1/8	6.46
W-159	4	4 13/16	4 1/8	1 1/8	3/8	7/8	3 5/8	7.90
W-135	5	5 7/8	5 1/8	1 3/8	3/4	7/8	4 1/8	10.04
W-160	6	6 15/16	6 1/8	1 3/4	1 1/8	2 1/8	4 5/8	12.00

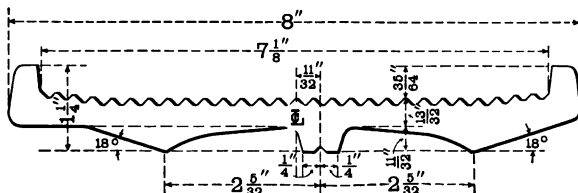
W-168.

3-Inch Tire Size. 5.81 Lbs. per Ft.



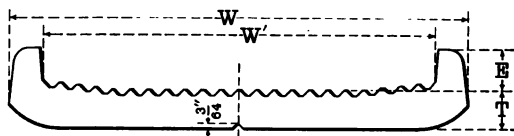
W-167.

7-Inch Tire Size. 14.38 Lbs. per Ft.



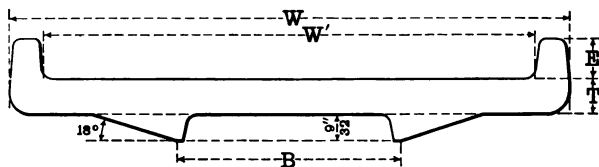
AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

“Goodyear S. V.” Base Bands.



Section Number	Tire Size	W	W'	E	T	Corrugations	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Number	Pounds
W-130	3½	4 ⁵ / ₁₆	3 ¹¹ / ₁₆	2 ² / ₄	5 ¹ / ₁₆	20	4.96
W-131	4	4 ¹¹ / ₁₆	4 ¹ / ₄	3 ¹¹ / ₁₆	1 ¹ / ₂	22	7.05
W-132	5	5 ⁷ / ₈	5 ¹ / ₄	3 ¹¹ / ₁₆	1 ³ / ₂	28	8.40
W-133	6	6 ¹¹ / ₁₆	6 ¹ / ₄	3 ¹¹ / ₁₆	1 ³ / ₂	32	9.83
W-134	7	8	7 ¹ / ₈	3 ¹¹ / ₁₆	1 ³ / ₂	36	11.37

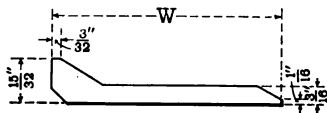
“Swinehart” Base Bands.



Section Number	Tire Size	W	W'	B	T	E	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Inches	Pounds
W-169	3½	4 ³ / ₁₆	3 ⁸ / ₁₆	1 ¹⁵ / ₁₆	5 ¹ / ₁₆	7 ¹ / ₁₆	6.15
W-136	4	4 ³ / ₁₆	4 ¹ / ₄	1 ¹¹ / ₁₆	5 ⁵ / ₁₆	1 ¹ / ₂	7.15
W-137	5	5 ³ / ₁₆	5 ³ / ₁₆	2 ¹¹ / ₁₆	3 ³ / ₈	1 ¹ / ₂	9.50
W-138	6	6 ⁷ / ₈	6 ³ / ₂	3 ¹¹ / ₁₆	3 ³ / ₈	1 ¹ / ₂	10.78
W-139	7	7 ⁷ / ₈	7 ³ / ₂	4 ¹¹ / ₁₆	3 ³ / ₈	1 ¹ / ₂	12.05

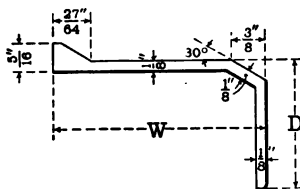
AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

"Goodyear" Felloe Bands.



Section Number	Customer's Number	Size	W	Weight per Foot
			Inches	Pounds
W-64	4	D	1 1/4	1.26
W-65	5	E	1 3/8	1.41
W-66	6	F	2 1/8	1.57
W-67	7	G	2 1/2	1.74

"Kelsey" Felloe Bands.

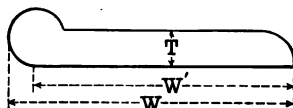


Section Number	Customer's Number	Size	W	D	Weight per Foot
			Inches	Inches	Pounds
W-68	112	E	1 1/4	1 3/8	1.44
W-69	114	F	2 1/8	1 5/8	1.54
W-70	144	G	2 1/4	1 3/4	1.59

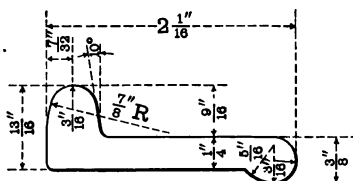
AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

Side Flanges.

“Consolidated” Flanges.

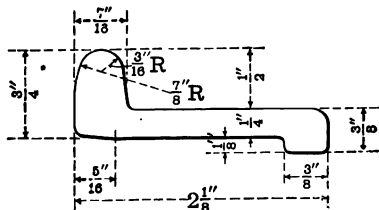
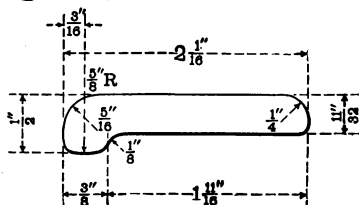


Section Number	W	W'	T	Weight per Foot
	Inches	Inches	Inches	Pounds
M-460	$2\frac{9}{16}$	$2\frac{3}{8}$	$\frac{5}{16}$	2.81
M-461	3	$2\frac{3}{4}$	$\frac{3}{8}$	3.96



W-72.
“Goodyear” No. 1.
 2.63 Lbs. per Ft.

W-163.
“Goodyear J-4”
 2.50 Lbs. per Ft.



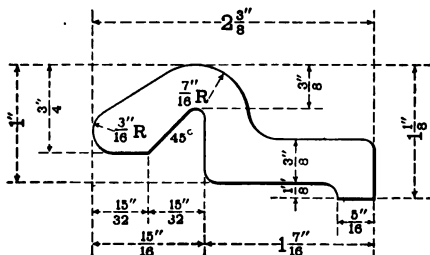
W-81.
“Standard”
No. 13.
 2.56 Lbs. per Ft.

AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

W-71—Side Flange.

"Cleveland" 3-C-1461. "Goodrich" No. 202.

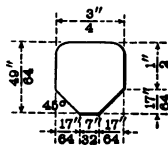
4.15 Lbs. per Ft.



W-1—Center Ring.

**"Cleveland" No. 2-C-1461.
"Goodrich" No. 203.**

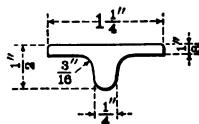
1.70 Lbs. per Ft.



W-2—Center Ring.

**"Cleveland" No. 3-645-C.
"Goodrich" No. 3.**

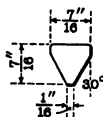
.88 Lbs. per Ft.



W-6.

**"Goodyear" N. R. C.
Wedge Ring.**

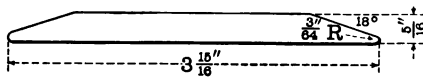
.44 Lbs. per Ft.



W-74.

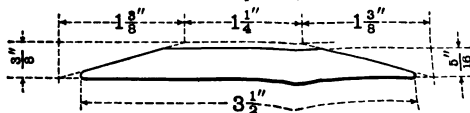
**"Swinehart" Center Wedge
Ring No. 1.**

3.60 Lbs. per Ft.



W-75—"Standard" Center Wedge Ring No. 15.

2.92 Lbs. per Ft.



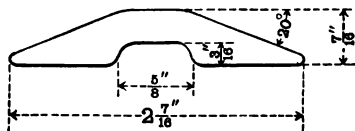
AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

Center Wedge Rings.

W-58.

"Goodyear" Center Wedge Ring No. 4.

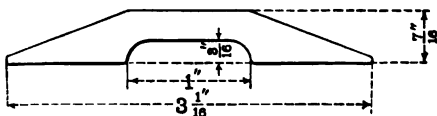
2.08 Lbs. per Ft.



W-59.

"Goodyear" Center Wedge Ring No. 5.

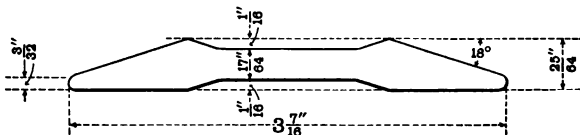
2.78 Lbs. per Ft.



W-157.

"Goodyear" Center Wedge Ring J-3.

3.00 Lbs. per Ft.



W-56.

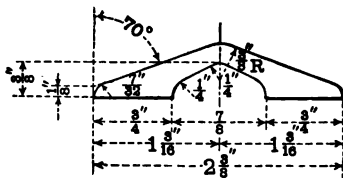
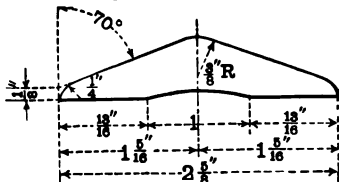
Center Wedge Ring.

"Revere" No. 3.

"Standard" No. 21.

1.92 Lbs. per Ft.

Tire Size, 2 1/2 and 3 inches.



W-57.

Center Wedge Ring.

"Revere" No. 4.

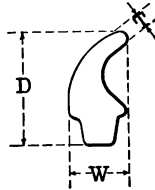
"Standard" No. 20.

3.06 Lbs. per Ft.

Tire Size, 3 1/2 inches and over.

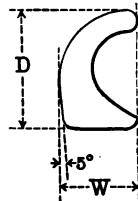
AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

Standard No. 1 Universal Side Rings.



Section Number	Customer's Number	Side Ring	Tire Size	W	D	T	Weight per Foot
			Inches	Inches	Inches	Inches	Pounds
W-18	114	D & E	3½ & 4	$\frac{35}{64}$	$\frac{57}{64}$	$\frac{5}{32}$	.98
W-19	115	F	4½ & 5	$\frac{43}{32}$	$1\frac{7}{8}$	$\frac{7}{32}$	1.60
W-20	116, 147	G	5½ & 6	$\frac{43}{32}$	$1\frac{5}{8}$	$\frac{11}{64}$	1.67

Standard No. 2 Universal Side Rings.



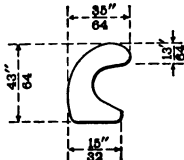
Section Number	Customer's Number	Side Rings	Tire Size	W	D	Weight per Foot
			Inches	Inches	Inches	Pounds
W-21	213	C	3	$\frac{21}{64}$	$\frac{21}{32} +$	.61
W-22	214	D & E	3½ & 4	$\frac{35}{64}$	$\frac{35}{32} +$	.77
W-23	215	F	4½ & 5	$\frac{43}{32} +$	$1\frac{5}{8}$	1.09
W-24	216, 146	G	5½ & 6	$\frac{43}{32}$	$1\frac{3}{8} +$	1.40

AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS. —(Continued)

Side Rings.

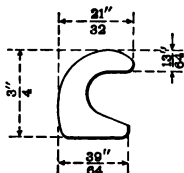
W-32.

"Goodyear" 90 mm.
.75 Lbs. per Ft.



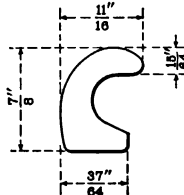
W-33.

"Goodyear" 105 mm.
1.02 Lbs. per Ft.



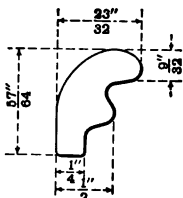
W-34.

"Goodyear" 120 mm.
1.22 Lbs. per Ft.



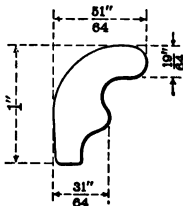
W-35.

"Goodyear Ideal" F.
4 1/2" and 5"
1.16 Lbs. per Ft.



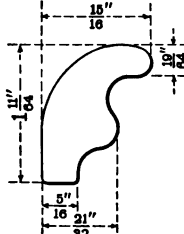
W-36.

"Goodyear Ideal" G.
5 1/2" and 6"
1.40 Lbs. per Ft.



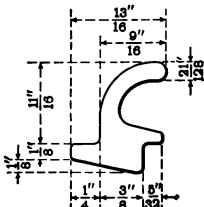
W-146.

"Goodyear Ideal".
7" and 8"
1.97 Lbs. per Ft.



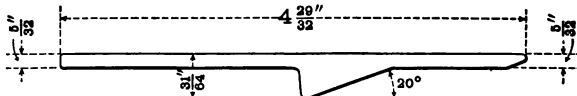
W-42.

F. & H. Wire Wheel.
1.10 Lbs. per Ft.



W-161.

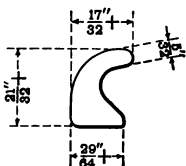
"Goodrich" No. 48-B-63.
3.16 Lbs. per Ft.



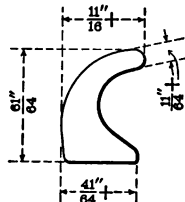
AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

Side Rings.

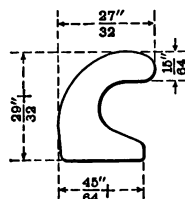
W-25.
"Kelsey" No. 86.
.74 Lbs. per Ft.



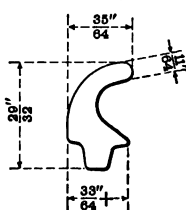
W-26.
"Kelsey" No. 88.
1.24 Lbs. per Ft.



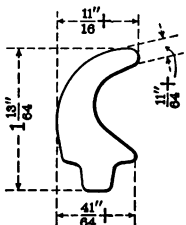
W-27.
"Kelsey" No. 171.
1.50 Lbs. per Ft.



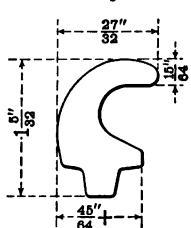
W-28.
"Kelsey" No. 178.
.92 Lbs. per Ft.



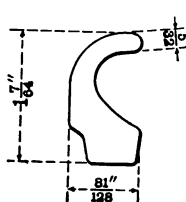
W-29.
"Kelsey" No. 109.
1.47 Lbs. per Ft.



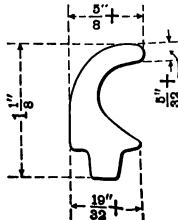
W-30.
"Kelsey" No. 170.
1.69 Lbs. per Ft.



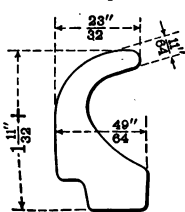
W-165.
"Marsh-Bryant" No. 44.
1.38 Lbs. per Ft.



W-31.
"Kelsey" No. 165.
1.23 Lbs. per Ft.



W-43.
"Goodrich" G.
"Marsh" No. 55.
2.10 Lbs. per Ft.

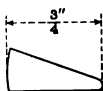


AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

Side Wedge Rings.

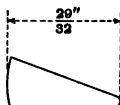
W-170.

"Goodyear" No. 1.
.55 Lbs. per Ft.



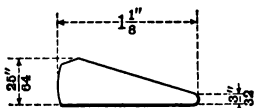
W-44.

"Goodyear" No. 2.
.76 Lbs. per Ft.



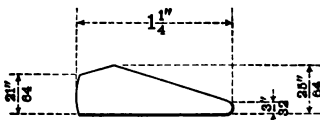
W-156.

"Goodyear" J-1.
1.00 Lbs. per Ft.



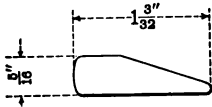
W-162.

"Goodyear" J-2.
1.16 Lbs. per Ft.



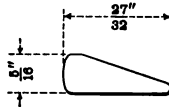
W-46.

"Swinehart" No. 2.
.98 Lbs. per Ft.



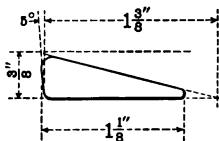
W-47.

"Swinehart" No. 3.
.72 Lbs. per Ft.



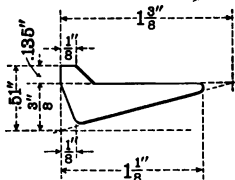
W-48.

"Standard" No. 14.
.83 Lbs. per Ft.



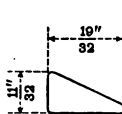
W-49.

"Standard" No. 16.
.82 Lbs. per Ft.



W-50.

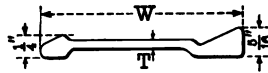
"Standard" No. 135.
.47 Lbs. per Ft.



AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

Side Rings, Adjusting Rings, Etc.

"Standard" Adjusting Rings.



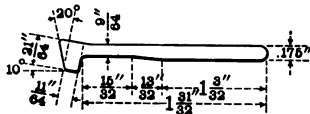
Section Number	Customer's Number	Ring	Tire Size Inches	W Inches	T Inches	Weight per Foot Pounds
W-7	123	D	3½	1½	¾	.85
W-8	124	E	4	1⅞	⅞	.95
W-53	125	F	4½ & 5	2⅛	¾	1.04

W-54.

"Standard" Side Ring

No. 136.

1.36 Lbs. per Ft.

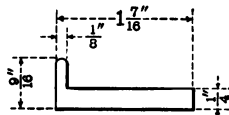


W-52.

"Cleveland" No. 2-645-C.

"Goodrich" Side Clamp No. 2.

1.34 Lbs. per Ft.

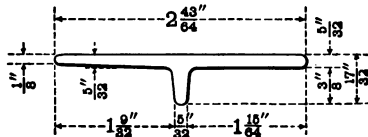


W-55.

"Baker" Side Ring.

"Cleveland" No. 1-573-D.

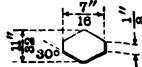
1.60 Lbs. per Ft.



W-9.

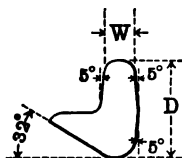
"Kelsey" Adjusting Ring No. 110.

.36 Lbs. per Ft.



AUTOMOBILE AND MOTOR TRUCK RIM SECTIONS.—(Continued)

Standard No. 2 Universal Locking Rings.

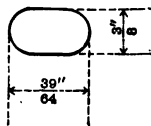


Section Number	Customer's Number	Locking Ring	Tire Size	W	D	Weight per Foot Pounds
			Inches	Inches	Inches	
W-11	209	C	3	$\frac{5}{32}$	$\frac{31}{32}$	.38
W-12	210	D & E	$3\frac{1}{2}$ & 4	$\frac{7}{16}$	$\frac{19}{32}$	.50
W-13	211	F	$4\frac{1}{2}$ & 5	$\frac{7}{32}$	$\frac{19}{32}$	.66
W-14	212	G	$5\frac{1}{2}$ & 6	$\frac{7}{32}$	$\frac{23}{32}$	.97

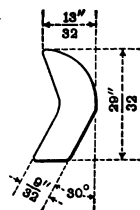
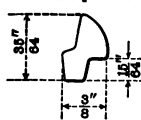
Locking Rings.

W-15—"Presto."
.82 Lbs. per Ft.

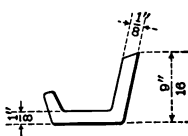
W-145—"Goodyear Ideal" 7".
.68 Lbs. per Ft.



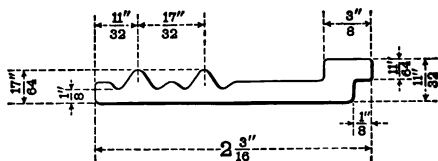
W-17.
"Booth" No. 126.
.43 Lbs. per Ft.



W-10.
"Kelsey" Locking
Case No. 124.
.46 Lbs. per Ft.



W-164.
"Standard" Rim Lock No. 34.
1.44 Lbs. per Ft.



ALLOY STEELS.

Nickel Steel, Chromium Vanadium, Chromium Nickel and Vanadium Steel. Can furnish additions of Chrome, Nickel, Vanadium, Silicon, Titanium, etc., to meet any reasonable specification, chemical or physical.

AUGER STEEL.

(See "Coal Drill Steel.")

AXE-POLL STEEL.

We can furnish standard sizes in bars $2\frac{1}{2}$ to $3\frac{1}{2}$ x $\frac{3}{4}$ to $1\frac{1}{2}$ inches, and other sizes, if desired.

These bars are soft, tough and strong. They will forge as easily as iron, and will weld perfectly to the bit, making light and strong tools which take a handsome finish.

AXLE STEEL.

Rounds—1-inch to 6-inch diameter.

Squares—1 to $4\frac{1}{2}$ inches.

Many thousands of Carriage and Wagon axles made of this steel are now doing good service under vehicles of every class.

Special High Grade Steel for Automobile and Motor Truck Axles.

Also Round and Square Axles for Mine Cars.

(See "Car Axles.")

BALE TIES (Wire).

Single-Loop style, for use in any kind of press.

Nos. 14, 15 and 16 W. & M. Gauge. Lengths 6 to 10 feet. See Special Catalogue.

ANCHOR PLATES.

In all regular sizes for Slick Metal Fence Posts
See "Fence Posts" herein.

BARS.

We make bars of all sizes, of Bessemer or Open Hearth Steel as specified, and of all commercial grades and finishes.

ROUNDS.

HAND— $1\frac{1}{8}$ to $2\frac{7}{8}$ inches all intermediate sizes.

$2\frac{7}{8}$ to $3\frac{3}{16}$ increasing by $\frac{1}{16}$ inch.

$3\frac{1}{4}$ to $7\frac{1}{4}$ increasing by $\frac{1}{8}$ inch.

$7\frac{1}{4}$ to 8 increasing by $\frac{1}{4}$ inch.

GUIDE— $\frac{1}{64}$ to 2 inches. All intermediate sizes.

Round Bars from 8 to $14\frac{1}{4}$ inches diameter, in long or short lengths, can be made in large tonnages of one size, by special arrangement.

SQUARES.

$\frac{3}{16}$ to $1\frac{3}{4}$ inches. All intermediate sizes.

$1\frac{3}{4}$ to $3\frac{3}{8}$ increasing by $\frac{1}{32}$ inch.

$3\frac{1}{2}$ to $5\frac{1}{2}$ increasing by $\frac{1}{8}$ inch.

Planished Squares, $\frac{3}{32}$ to $2\frac{1}{2}$ inches.

SQUARE BARS FOR CARRIAGE AND WAGON AXLES.

1 x 1 to $3\frac{1}{2}$ x $3\frac{1}{2}$ inches.

FLATS.

REGULAR— $\frac{1}{4}$ x $\frac{3}{16}$ to 6 x $2\frac{1}{8}$ inches.

ROUND EDGE— $\frac{1}{4}$ x $\frac{3}{16}$ to 6 x $1\frac{1}{2}$ inches.

ROUND CORNER— $\frac{5}{8}$ x $\frac{1}{4}$ to 2 x $\frac{5}{8}$ inches.

See "Flats" and "Bands." For wider Flats, see Plate list.

Round bars $\frac{3}{8}$ to $2\frac{7}{8}$ inches in diameter, square bars $\frac{3}{8}$ to $2\frac{1}{2}$ inches, and flat steel bars up to 6 inches wide and $\frac{1}{2}$ inch thick can be furnished with smooth finish, and all sizes can be supplied of iron finish, and of various qualities to meet the requirements of use.

BARS (SHEET AND TIN).

Width, 8 inches. $7\frac{1}{2}$ to 25 pounds per foot.

BAR STEEL FOR CONCRETE REINFORCEMENT.

Plain Round, Plain Square and Twisted Square Bars in all sizes. Slick Patented Deformed Bars.

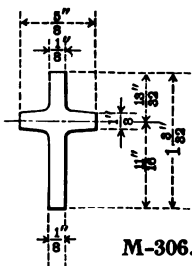
See "Concrete Reinforcement Bars" for further information.

BANDS.

Width, $\frac{3}{8}$ to 12 inches, increasing by $\frac{1}{16}$ inch.

Thickness, $\frac{1}{16}$ to $\frac{5}{32}$ inches.

See "Pipe and Tank Bands."



.77 Lbs. Per Foot.

BARN DOOR RAIL.

Soft, tough, smooth finish,
and rolled accurately to size.
Straight and free from twist.

BARBED WIRE.

Cambria Barbed Wire embraces every style required by fence builders. Strands uniformly twisted; barbs sharp, tightly wrapped and equally spaced. Standard Barbed Wire is furnished either galvanized or painted, put up on Catch Weight, Pony, or 80-rod Spools.

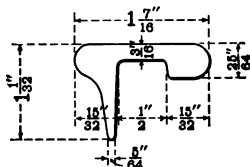
Special or Light Barbed Wire is furnished only galvanized, on 80 rod Spools. See catalogues.

BARREL HOOP STEEL.

**Chime Hoop
Bar.**

M-516.

1.73 Lbs. per Ft.



Also Flat Hoops and Bands; Round Pipe and Tank Bands with Threaded Ends.

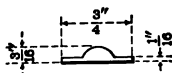
See "Bands," "Flats," "Pipe and Tank Bands," Etc.

BEADED FLAT.

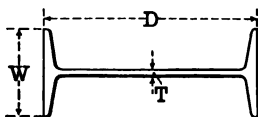
M-387.

"Flanged Convex."

.27 Lbs. per Ft.



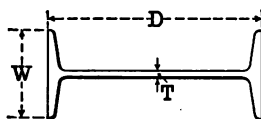
BEAMS.



A. A. S. M. Standard I-Beams.

Section Number	D	W	T	Weight per Foot	Section Number	D	W	T	Weight per Foot
	Ins.	Ins.	Ins.	Pounds		Ins.	Ins.	Ins.	Pounds
B-5	3	2.33	.17	5.50	B-33	10	4.66	.31	25.00
		2.42	.26	6.50			4.80	.45	30.00
		2.52	.36	7.50			4.95	.60	35.00
B-9	4				B-41	12	5.10	.75	40.00
		2.66	.19	7.50			5.00	.35	31.50
		2.73	.26	8.50			5.09	.44	35.00
		2.81	.34	9.50			5.21	.56	40.00
B-13	5				B-53	15	5.50	.41	42.00
		3.00	.21	9.75			5.55	.46	45.00
		3.15	.36	12.25			5.65	.56	50.00
B-17	6						5.75	.66	55.00
		3.29	.50	14.75			5.84	.75	60.00
		3.33	.23	12.25	B-65	18	6.00	.46	55.00
B-21	7						6.10	.56	60.00
		3.45	.35	14.75			6.18	.64	65.00
		3.57	.47	17.25			6.26	.72	70.00
B-25	8				B-73	20	6.25	.50	65.00
		3.66	.25	15.00			6.33	.58	70.00
		3.76	.35	17.50			6.40	.65	75.00
B-29	9				B-89	24	7.00	.50	80.00
		3.87	.46	20.00			7.07	.57	85.00
		4.00	.27	18.00			7.13	.63	90.00
		4.08	.35	20.25			7.19	.69	95.00
B-33	10				B-41	12	7.25	.75	100.00
		4.17	.44	22.75					
		4.26	.53	25.25					
B-41	12				B-53	15			
		4.45	.41	25.00					
		4.61	.57	30.00					
		4.77	.73	35.00					

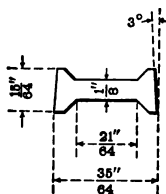
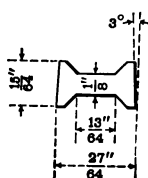
For full information relating to beams from 3-inch to 24-inch inclusive, see our structural handbook entitled "CAMBRIA STEEL."
Refer to Section B, herein, for Cultivator Beams and the like.

BEAMS.—(Continued)**Special I-Beams.**

Section Number	D	W	T	Weight per Foot	Section Number	D	W	T	Weight per Foot
	Ins.	Ins.	Ins.	Pounds		Ins.	Ins.	Ins.	Pounds
B-105	12	5.25	.46	40.00	B-121	20	7.00	.60	80.00
		5.37	.58	45.00			7.06	.66	85.00
		5.49	.70	50.00			7.14	.74	90.00
		5.61	.82	55.00			7.21	.81	95.00
B-109	15	6.00	.59	60.00	B-127	24	7.28	.88	100.00
		6.10	.69	65.00			7.88	.63	105.00
		6.19	.78	70.00			7.94	.69	110.00
		6.29	.88	75.00			8.00	.75	115.00
B-113	15	6.39	.98	80.00					
		6.40	.80	80.00					
		6.50	.90	85.00					
		6.59	.99	90.00					
		6.69	1.09	95.00					
		6.79	1.19	100.00					

Extra Light Bar Size I-Beams.

Used for Motor Construction.

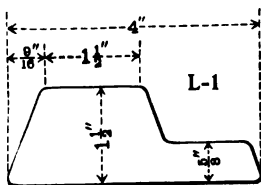
M-563.Customer's No. 1.
.27 Lbs. per Ft.**M-565.**Customer's No. 2.
.22 Lbs. per Ft.

For full information, properties, spacings, safe loads, etc., relating to beams from 3-inch to 24-inch inclusive, see our structural handbook entitled "CAMBRIA STEEL."

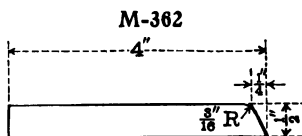
Refer to Section B, herein, for Cultivator Beams and the like.

BELT RAIL STEEL.

(Used by the Pennsylvania Railroad Company.)



13.5 Pounds Per Foot



6.6 Pounds Per Foot

BEVEL STEEL.

"Bevel Nose," "Bevel Shaft," "Tongue Cap,"
 "Wagon Box," "Hinge Plate," "Drill Point,"
 "Nut Lock," and similar sections.

See "BEVEL EDGE STEEL," Section B.

For "Round Bevel Edge," see "FLATS."

BILLETS.

Bessemer and Open-Hearth Steel of any grade
 desired.

Square cornered, 1 x 1 to 6 x 6 inches.

Round cornered, $1\frac{3}{4} \times 1\frac{3}{4}$ to 6 x 6 inches.**BLOOMS.**

Bessemer and Open-Hearth Steel of any grade
 desired.

Square Steel Blooms. Sizes 6 x 6 to 22 x 22 inches.

Rectangular Steel Blooms and Slabs. Sizes 6 x 7 to
 28 x 20 inches. Also see "Slabs."

BOLT STEEL.

All sizes, $\frac{1}{4}$ to 4 inches round. Bolt rounds, in general, are furnished of soft, free-cutting steel. Other grades can be furnished if specified.

BOLTS AND NUTS.**REGULAR.**

BLANK BOLTS, with Square, Hexagon, Round or Tee Heads— $\frac{1}{2}$ to 3 inches diameter. Any lengths.

MACHINE BOLTS, with Square or Hexagon Heads and Nuts— $\frac{1}{2}$ to 3 inches diameter.

Rough Machine Bolts, $\frac{1}{2}$ to $\frac{7}{8}$ inch diameter, up to 6 inch lengths.

Regular Machine Bolts, $\frac{7}{8}$ to 3 inches diameter; lengths 6 inches and over.

The Square or Hexagon Heads for the foregoing bolts are Manufacturers' Standard Sizes; the nuts are U. S. Standard sizes; and the threads can be cut or rolled as ordered.

TRACK BOLTS, $\frac{1}{2}$ to $1\frac{1}{4}$ inches diameter, any lengths. Various patterns.

BOLTS, $\frac{1}{2}$ to 4 inches diameter, with Manufacturers' Standard Square or Hexagon Heads, and with U. S. Standard Square or Hexagon Nuts, to any lengths desired.

NUTS, HOT PRESSED (U. S. Standard).

Square and Hexagon for bolts, $\frac{1}{2}$ to 2 inches diameter.

Blank and tapped.

BRIDGE AND ROOF RODS.

Plain or Upset Ends—Body Diameters— $\frac{3}{4}$ to 4 inches. Any lengths.

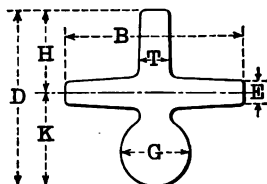
BOLT ENDS.

$\frac{3}{8}$ to 4 inches diameter. Any lengths.

NOTE—All Bolts, Bridge and Roof Rods and Bolt Ends, up to two inches diameter, can be made with cut or rolled thread, as specified. Sizes above two inches with cut thread only.

BRAKE BEAM STEEL.

Also see "Channels"



Section No.	Customers' No.	B	D	H	K	G	T	E	Weight per Foot
		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Pounds
M-484	2	3	$3\frac{3}{16}$	$1\frac{11}{16}$	$1\frac{1}{2}$	$1\frac{1}{8}$	$\frac{3}{8}$	$\frac{5}{16}$	9.38
M-485	3	3	$3\frac{3}{8}$	$1\frac{11}{16}$	$1\frac{1}{8}$	$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{8}$	11.98
M-486	4	$3\frac{3}{4}$	$3\frac{3}{4}$	$1\frac{1}{2}$	2	$1\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	17.34

BRAKE PINS

Made to order.

BUCKLE PLATES.

Buckle Plates of pressed steel, for floors of bridges, buildings, etc.— $\frac{1}{4}$ -inch to $\frac{3}{8}$ -inch thick.

SIZES OF BUCKLES.

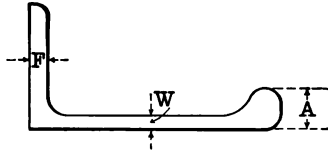
Length			Width		Depth
Feet	Inches		Feet	Inches	Inches
2	—	8	2	—	$2\frac{1}{4}$
3	—	8	2	—	$2\frac{1}{2}$
3	—	9	3	—	$3\frac{1}{4}$
3	—	2	3	—	$3\frac{1}{2}$
4	—	0	4	—	$3\frac{1}{2}$
4	—	6	3	—	$3\frac{3}{4}$
5	—	6	3	—	$3\frac{1}{2}$

BUFFER SPRINGS

Made to order. See "Springs."

BUGGY SPRINGS.

Timken Type.

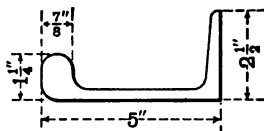
BULB ANGLES.

Section Number	Size	W	F	A	Weight per Foot
	Inches	Inches	Inches	Inches	Pounds
A-177	6 x 3	$\frac{5}{16}$	.340	1.075	11.8
		$\frac{3}{8}$	.390	1.138	13.5
		$\frac{7}{8}$	.430	1.200	15.0
A-178	6 x 3½	$\frac{5}{16}$	.370	1.013	12.5
		$\frac{3}{8}$	.410	1.075	14.1
		$\frac{7}{8}$	.450	1.138	15.7
		$\frac{1}{2}$	.490	1.200	17.3
		$\frac{9}{16}$	.530	1.263	18.9
		$\frac{5}{8}$	.580	1.325	20.5
A-179	7 x 3½	$\frac{3}{8}$	.425	1.100	15.7
		$\frac{7}{8}$	.460	1.168	17.5
		$\frac{1}{2}$	.480	1.225	19.1
A-181	8 x 3½	$\frac{3}{8}$	.415	1.175	17.4
		$\frac{7}{8}$	.440	1.238	19.3
		$\frac{1}{2}$	.500	1.300	21.5
A-183	9 x 3½	$\frac{1}{2}$	.440	1.287	20.3
		$\frac{3}{4}$	.480	1.350	22.6
		$\frac{3}{4}$	.520	1.412	24.8
		$\frac{1}{2}$			
A-185	10 x 3½	$\frac{7}{8}$	.465	1.400	23.6
		$\frac{1}{2}$	.510	1.463	26.1
		$\frac{1}{8}$	.550	1.525	28.5

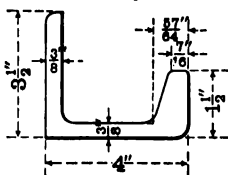
For Detailed Dimensions, Diagrams of Sections and Properties, see our structural handbook entitled "CAMBRIA STEEL."

BULB ANGLES.—(Continued)**A-171.**

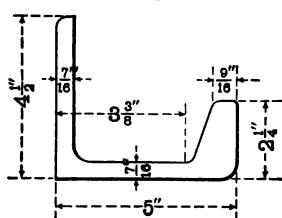
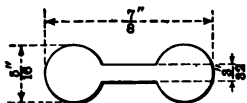
10.2 Lbs. per Ft.

**Top Guard Angle.****A-174.**

11.7 Lbs. per Ft.

**Top Guard Angle.****A-176.**

19.2 Lbs. per Ft.

**BULB BARS (DOUBLE).****Toe Rail.****M-388.**

.62 Lbs. per Ft.

CANT HOOK STEEL.

All sizes, Flats or Squares, made from high-grade Open Hearth Steel.

Finished Cant Dogs or Hooks manufactured to special order.

CAR CHANNELS.

See "Channels," herein.

CAR AXLES.

"Cambria Special" Axles, Twisted Cold

"Cambria Steel Axles" toughened by the Coffin Patented Process.

Steel Axles for Passenger Cars, Freight Cars, Electric Cars, etc.

Locomotive Driving and Truck Axles, Mine Car Axles.

"CAMBRIA SPECIAL" heat-treated axles are particularly adapted to the severe conditions of use on electric roads, and are standard with many of the larger systems.

**For further information see special catalogue—
"CAMBRIA AXLES AND FORGINGS."**



CARS (STEEL).

Gondola, Hopper, Hopper-Gondola, Flat, Tank, etc.

Steel Box Cars, Steel Mine Cars.

Car Underframes and Trucks.

For pressed steel parts see "Pressed Steel Shapes for Cars," etc.

CAR FORGINGS.

List of Forgings for Car Work, Etc.

Air Cylinder Push Rod.	Brake Rod with Clevises.
Air Reservoir Release Rod.	Brake Step Bracket.
Arch Bars.	Chain Hook.
Bottom Follower Guide.	Chain Link.
Bottom Side Bearing.	Corner Bands.
Bracket for Brake Shaft.	Column Bolt Nut Lock.
Brake Beam Hanger.	Coupler Yokes.
Brake Beam Hanger Carrier.	Coupling Links.
Brake Connection Rod Carrier.	Coupling Pins.
Brake Levers.	Cylinder Levers Connecting Rod.
Brake Mast.	Cylinder Lever Fulcrum.
Brake Mast Yoke.	Door Chain U-Bolt.
Brake Pins.	Door Hinge.
	Door Hinge Pins.
	Door Operating Lever.



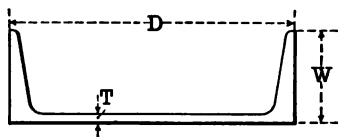
CAR FORGINGS.**List of Forgings for Car Work, etc.—Continued.**

Door Safety Chain Eye-Bolt.	King Pin Support.
Door Safety Chain, Hook and Links.	Lever Guides.
Door Safety Chain Support.	Live Truck Lever Guide.
Door Shaft Pawl.	Main Follower Sprocket Wheel Shaft.
Door Tumbling Link.	Operating Shaft.
Draft Cylinder Support.	Operating Shaft Cam.
Draw Bar Carrier.	Operating Shaft Cam Stops.
Draw Bar Liner.	Operating Ratchet Pawl.
Draw Bar Yoke.	Operating Ratchet Pawl Guard.
Door Clevises.	Pipe Clamp.
Door Tumbling Lever.	Pipe Clamp and Support.
End Sill Pipe Clamp.	Pushrod Carrier.
Eye-Bolts.	Ratchet Wrench Dog.
Floating Lever.	Roping Staple.
Floating Lever Carrier.	Sheave and Link Pin.
Floating Lever Connecting Rod.	Side Stake Pockets.
Floating Lever Fulcrum.	Sill Step Suspension Spring.
Grab Irons.	Suspension Spring.
Hand Brake Lever Carrier.	Suspension Spring Hanger.
Hand Brake Lever Fulcrum.	Tie Bars with Upset Ends or Plain.
Hand Brake Lever Guide.	Top Body Tie Angle.
Hand Brake Rod.	Top Side Bearing.
Hand Brake Rod Guide.	Truck Bolster Tie Bar.
Hand Brake Rod Stop.	Truck Door Stop, Chain Clamp Hooks
Hand Brake Rod with Threaded connection for Malleable Stop.	Truck Levers.
Hook Bolts.	Truck Side Bearing.
Inside Body Step.	U-Bolt Clamp for Angle Valve.
King Bolt.	Uncoupling Lever.

A large variety of small forgings not listed above can be furnished to order.

CHANNELS.

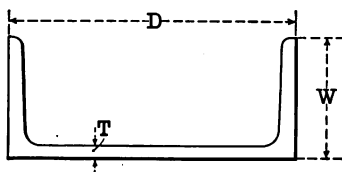
Steel Channels for Structural Work and Car Construction.

**A. A. S. M. STANDARD CHANNELS.**

Section Number	D	W	T	Weight per Foot	Section Number	D	W	T	Weight per Foot
	Ins.	Ins.	Ins.	Pounds		Ins.	Ins.	Ins.	Pounds
C-5	3	1.41	.17	4.00	C-29	9	2.43	.23	13.25
		1.50	.26	5.00			2.49	.29	15.00
		1.60	.36	6.00			2.65	.45	20.00
C-9	4	1.58	.18	5.25			2.81	.61	25.00
		1.65	.25	6.25	C-33	10	2.60	.24	15.00
		1.73	.33	7.25			2.74	.38	20.00
C-13	5	1.75	.19	6.50			2.89	.53	25.00
		1.89	.33	9.00			3.04	.68	30.00
		2.04	.48	11.50			3.18	.82	35.00
C-17	6	1.92	.20	8.00	C-41	12	2.94	.28	20.50
		2.04	.32	10.50			3.05	.39	25.00
		2.16	.44	13.00			3.17	.51	30.00
		2.28	.56	15.50			3.30	.64	35.00
C-21	7	2.09	.21	9.75	C-53	15	3.42	.76	40.00
		2.20	.32	12.25			3.40	.40	33.00
		2.30	.42	14.75			3.43	.43	35.00
		2.41	.53	17.25			3.52	.52	40.00
		2.51	.63	19.75			3.62	.62	45.00
C-25	8	2.26	.22	11.25			3.72	.72	50.00
		2.35	.31	13.75			3.82	.82	55.00
		2.44	.40	16.25					
		2.53	.49	18.75					
		2.62	.58	21.25					

CHAIN RODS.

Diameter, $\frac{1}{4}$ to $\frac{3}{4}$ inch. In coils.

CHANNELS.—(Continued)**SPECIAL CHANNELS.**

Section Number	D	W	T	Weight per Foot	Section Number	D	W	T	Weight per Foot
	Ins.	Ins.	Ins.	Pounds		Ins.	Ins.	Ins.	Pounds
C-95	13	4.00	.38	32.00	C-65	18	3.77	.47	45.00
		4.08	.45	35.00			3.85	.55	50.00
		4.12	.50	37.00			3.93	.63	55.00
		4.19	.56	40.00			4.02	.72	60.00
		4.30	.68	45.00					
		4.42	.79	50.00					
		4.53	.90	55.00					

SHIP CHANNELS.

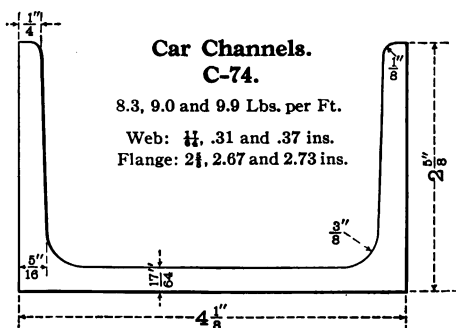
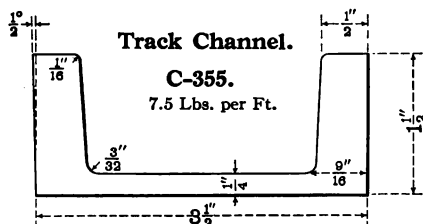
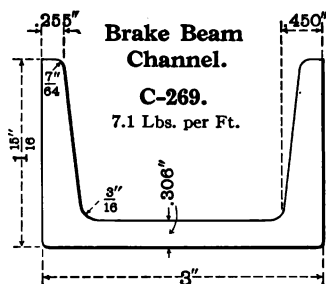
C-86	6	3.50	.35	15.20	C-90	10	3.38	.38	21.90
		3.62	.47	17.60			3.50	.50	26.00
C-88	6	3.56	.41	19.00			3.54	.54	27.40
		3.69	.54	21.60			3.66	.66	31.50
C-89	7	3.45	.45	20.90	C-105	12	3.77	.47	35.00
		3.57	.57	23.80			3.90	.60	40.00
C-101	8	3.50	.40	21.50			4.00	.70	44.30
		3.62	.52	24.80			4.05	.75	46.30
C-103	8	3.50	.50	23.80			4.10	.80	48.40
		3.62	.62	27.10			4.14	.84	50.00

For full information relating to Channels 3-inch to 18-inch inclusive, see our structural handbook entitled "CAMBRIA STEEL."

For small Channels used in agricultural implements, see Section B, herein.

CHANNELS.

For Special Service.



Also see "Window Sash Steel."

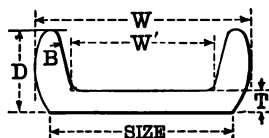
Also see “Guide Bar.”

Section Number	Customer's Number	W	D	T	F	F'	Weight per Foot
		Inches	Inches	Inches	Inches	Inches	Pounds
C-322	2	3	1 $\frac{1}{2}$	3	1 $\frac{1}{2}$	3	11.70
C-323	3	3	1 $\frac{13}{16}$	3	1 $\frac{11}{16}$	3	12.24
C-356	179	3 $\frac{1}{4}$	2 $\frac{1}{2}$	4	3 $\frac{1}{2}$	4 $\frac{1}{2}$	17.85

Section Number	W	D	T	E	H	F	F'	Weight per Ft.
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Lbs.
C-346	1½	1½	1⅛	3⅜	3¼	1½	7¼	1.12
C-347	1½	1½	1⅞	4	1½	1½	9	1.45
C-348	2	2⅝	1⅞	5⅞	5⅞	4	9¼	2.21

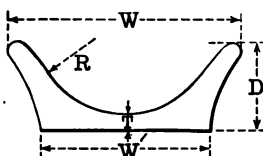
CHANNELS.

For Solid Rubber Tire.



Section Number	Size	W	W'	D	T	B	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Degrees	Pounds
M-301	$3\frac{3}{4}$	$6\frac{1}{4}$	$5\frac{5}{8}$	$7\frac{7}{8}$	$3\frac{3}{32}$	$12\frac{1}{2}$	.60
M-302	$4\frac{7}{8}$	$1\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{7}{8}$	$3\frac{3}{32}$	$12\frac{1}{2}$	.67
M-303	1	$1\frac{5}{8}$	$1\frac{3}{8}$	$2\frac{1}{8}$	$7\frac{1}{64}$	$12\frac{1}{2}$	.79
M-304	$1\frac{1}{8}$	$1\frac{3}{4}$	$1\frac{3}{8}$	$2\frac{1}{8}$	$1\frac{1}{8}$	$12\frac{1}{2}$	1.00
M-305	$1\frac{1}{4}$	$1\frac{5}{8}$	$1\frac{3}{8}$	$2\frac{1}{8}$	$1\frac{1}{8}$	$12\frac{1}{2}$	1.32
M-306	$1\frac{3}{8}$	$1\frac{3}{4}$	$1\frac{3}{8}$	$2\frac{1}{8}$	$3\frac{3}{16}$	$12\frac{1}{2}$	1.61
M-307	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{3}{8}$	$2\frac{1}{8}$	$3\frac{3}{16}$	$12\frac{1}{2}$	1.94
M-308	$1\frac{5}{8}$	$1\frac{3}{4}$	$1\frac{3}{8}$	$2\frac{1}{8}$	$3\frac{3}{16}$	$12\frac{1}{2}$	2.04
M-309	$1\frac{3}{4}$	$2\frac{1}{4}$	$1\frac{7}{8}$	$2\frac{3}{4}$	$1\frac{1}{4}$	$12\frac{1}{2}$	2.31
M-310	2	$2\frac{1}{4}$	$1\frac{7}{8}$	$2\frac{3}{4}$	$1\frac{1}{4}$	$12\frac{1}{2}$	2.79
M-311	$2\frac{1}{4}$	$2\frac{5}{8}$	$1\frac{7}{8}$	$2\frac{5}{8}$	$1\frac{1}{4}$	14	3.03
M-312	$2\frac{1}{2}$	$2\frac{7}{8}$	$2\frac{1}{8}$	$2\frac{5}{8}$	$1\frac{1}{4}$	$12\frac{1}{2}$	3.62
M-313	3	$3\frac{7}{8}$	$2\frac{5}{8}$	1	$1\frac{5}{16}$	$12\frac{1}{2}$	4.78
M-314	$3\frac{1}{2}$	4	$3\frac{1}{2}$	$1\frac{3}{16}$	$1\frac{5}{16}$	$12\frac{1}{2}$	7.00
M-315	4	$4\frac{3}{8}$	$3\frac{7}{8}$	$1\frac{1}{16}$	$1\frac{5}{16}$	$12\frac{1}{2}$	7.72

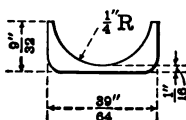


CHANNELS.**For Cushion Tire.**

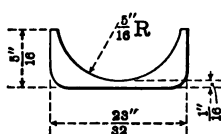
Section Number	W	W'	D	T	R	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Pounds
C-316	$1\frac{7}{32}$	$\frac{7}{8}$	$\frac{15}{32}$	$\frac{3}{32}$	$\frac{1}{32}$	.68
C-317	$1\frac{5}{16}$	$\frac{7}{8}$	$\frac{1}{4}$	$\frac{3}{32}$	$\frac{9}{16}$	.73
C-318	$1\frac{7}{16}$	$\frac{7}{8}$	$\frac{3}{8}$	$\frac{1}{8}$	$\frac{5}{8}$	.91

Crescent Channels.**M-238.** $\frac{1}{4}$ Inch Size

.26 Lbs. per Ft.

**M-239.** $\frac{5}{8}$ Inch Size.

.34 Lbs. per Ft.



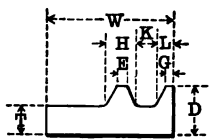
Also see "Crescents" herein.

CHAIN GUIDE BARS.

See "Channels" and "Guide Bar" herein.

CLIP STEEL.

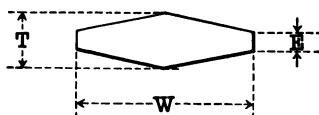
For the ends of elliptical and other springs.



Section Number	Size Number	W	D	T	E	G	H	K	L	Weight per Ft. Pounds
		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	
M-291	1	$1\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{32}$	$\frac{3}{32}$	$\frac{7}{32}$	$\frac{3}{16}$	$\frac{3}{16}$	1.22
M-292	2	$1\frac{1}{8}$	$\frac{11}{16}$	$\frac{1}{8}$	$\frac{3}{32}$	$\frac{3}{32}$	$\frac{7}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	1.84
M-293	3	$1\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{32}$	$\frac{3}{32}$	$\frac{7}{32}$	$\frac{3}{16}$	$\frac{3}{16}$	1.28
M-294	4	$1\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{3}{64}$	$\frac{3}{32}$	..	$\frac{11}{64}$	..	1.70

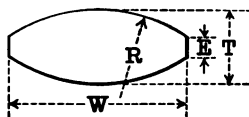
COAL DRILL STEEL.

Blunt Diamond, Blunt Oval and Special Sections.



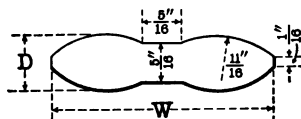
Blunt Diamond Section

Section Number	Section	W	T	E	Weight per Foot Pounds
		Inches	Inches	Inches	
M-371	Blunt Diamond	$1\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{8}$	1.07
M-372	" "	$1\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	1.56

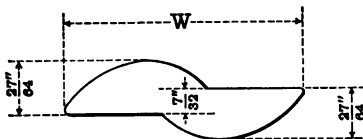
COAL DRILL STEEL.—(Continued)**Blunt Oval Section.**

Also see "Ovals—Blunt," herein.

Section Number	Section	W	T	E	R	Weight per Foot
		Inches	Inches	Inches	Inches	Pounds
M-113	Blunt Oval	$1\frac{3}{4}$	$\frac{7}{16}$	$\frac{3}{16}$	$2\frac{1}{4}$	1.94
M-114	" "	2	$\frac{3}{8}$	$\frac{3}{16}$	5	2.12
M-115	" "	2	$\frac{7}{16}$	$\frac{1}{8}$	$3\frac{5}{16}$	2.38

Special Sections.**Double Oval.**

Section Number	W	D	Weight per Foot
	Inches	Inches	Pounds
M-289	$1\frac{3}{4}$	$2\frac{7}{8}$	1.97
M-290	$1\frac{7}{8}$	$\frac{3}{4}$	1.97

**Double Half Oval.**

Section Number	W	Weight per Foot
	Inches	Pounds
M-99	$1\frac{3}{4}$	2.65
M-100	$1\frac{7}{8}$	3.00

COLD ROLLED AND COLD DRAWN STEEL.**TURNED SHAFTING.**

Our entire product in this line is made from carefully selected steel of our own manufacture. As a result the uniformity of output is controlled and customers are assured of receiving material of standard excellence.

Particular attention is called to our special Screw steel, Roller-bearing steel, Cone and Hub steel, etc.

DRAWN ROUNDS.

$\frac{1}{2}$ to $1\frac{1}{2}$ inches diameter. Smaller diameters furnished from Wire Mill sizes, in bright finish only.

DRAWN SQUARES.

$\frac{3}{16}$ to 4 inches. For Shafts, Keys, Splines, etc.

DRAWN FLATS.

Width, Inches	Thickness, Inches
$\frac{3}{8}$ to $1\frac{1}{2}$	$\frac{1}{8}$
$\frac{3}{8}$ " 2	$\frac{3}{16}$
$\frac{3}{8}$ " 3	$\frac{1}{4}$
$\frac{3}{8}$ " $3\frac{1}{2}$	$\frac{5}{16}$
$\frac{7}{16}$ " $3\frac{1}{2}$	$\frac{3}{8}$
$\frac{1}{2}$ " 4	$\frac{7}{16}$
$\frac{9}{16}$ " 6	$\frac{1}{2}$

DRAWN HEXAGONS.

Special for Screws and other purposes.

$\frac{1}{4}$ to 2 inches short diameter.

COLD ROLLED AND COLD DRAWN STEEL.**TURNED SHAFTING.**

(Continued.)

MISCELLANEOUS DRAWN SHAPES.

Triangles, Z-Bars, Figure 8 and any other non-intricate sections may be manufactured under special arrangement.

TURNED SHAFTING.

True to size, accurately straightened and lathe-cut ends.

Shipped Rough Turned and Unfinished; or Finished, Polished and absolutely straightened. Sizes $1\frac{1}{4}$ to 7 inches diameter.

Piston Rods and Pump Rods furnished in long and short lengths, uniformly accurate to exact sizes with carefully finished surface.

Finished Shafting, any size, may be centered and key seated with standard keyways, by special arrangement.

COLD ROLLED SHAPES.

Agricultural Finger Bars, Reinforced and Plain.

See "Finger Bars," Section B herein.

Special Stove Angle, $2 \times 1\frac{1}{4} \times \frac{3}{8}$ inches, 1.96 lbs. per foot.

Other special shapes to exact sizes, as may be arranged.

Quotations furnished promptly for fitting up to manufacture new sections of cold rolled or cold drawn steel.

CONCRETE REINFORCEMENT BARS.

Plain Round, Plain Square and Twisted Square Bars
furnished in all sizes.



CAMBRIA TWISTED BAR — BENT COLD.

Plain round bars, plain square bars and twisted square bars for use in reinforcing concrete, are recommended to be of composition and initial physical properties similar to standard structural steel for buildings.

Bars of these qualities when stressed from 15,000 to 18,000 pounds per square inch, act more harmoniously with the concrete as, under these conditions, the elastic stretch of the steel will not break the bond between the bars and the concrete to so great an extent as in the case of harder bars of high elastic limit, if used for greater working stresses. The reason for this is that the moduli of elasticity of soft steel and hard steel are practically the same, so that the elastic stretch of the latter would be about twice as great, with the consequent destructive effect on the bond between the steel and the concrete.

The use of medium steels and stresses is, therefore, to be preferred for this purpose.



SYNOPSIS OF STANDARD SPECIFICATIONS FOR CONCRETE REINFORCEMENT BARS.

MANUFACTURE.

Steel may be made by either the open-hearth or Bessemer process. Bars shall be rolled from standard new billets.

CHEMICAL AND PHYSICAL PROPERTIES.

The chemical and physical properties shall conform to the following limits:

PROPERTIES	PLAIN BARS	DEFORMED BARS	COLD- TWISTED BARS
Phosphorus, maximum, per cent.: Bessemer . . . .	.10	.10	.10
Open-hearth . . . .	.06	.06	.06
Ultimate tensile strength, pounds per square inch . .	55,000 to 70,000	55,000 to 70,000	Recorded Only
Yield point, minimum, pounds per square inch . .	33,000	33,000	55,000
Elongation, per cent. in 8 inches, minimum	1,400,000	1,250,000	5%
Cold bend without fracture:	T. S.	T. S.	
Bars under $\frac{1}{2}$ inch in diameter or thickness	180°d. = 1t.	180°d. = 1t.	180°d. = 2t.
Bars $\frac{1}{2}$ inch in diameter or thickness and over . .	180°d. = 1t.	180°d. = 2t.	180°d. = 3t.

NUMBER OF TWISTS.

Cold-twisted bars shall be twisted cold with one complete twist in a length equal to not more than 12 times the thickness of the bar.

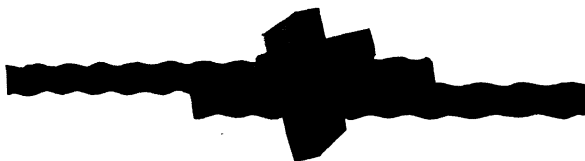
FINISH.

Material must be free from injurious seams, flaws or cracks, and have a workmanlike finish.

VARIATION IN WEIGHT.

Bars for reinforcement are subject to rejection if the actual weight of any lot varies more than 5% over or under the theoretical weight of that lot.

CONCRETE REINFORCEMENT BARS.
SLICK PATENTED DEFORMED BARS.



Patented Sept. 1st, 1914

Slick deformed bars may be used by engineers, architects, contractors and builders in either round or square form, whichever is preferred. They can be directly substituted in all cases where the design has been made for the ordinary plain bars without any changes whatsoever in the arrangement or dimensions.

These bars are of substantially uniform cross section throughout and of equal strength at all places, with the material economically distributed to best advantage.

Projections in the form of undulations or waves are so located that the concrete can be firmly bedded on all portions of the bar without the formation of air pockets which would destroy the contact.

The undulating form of the Slick bar not only adds to the surface in contact with the concrete, but provides positive bond.

This bar can be positively spliced equal in strength to the bar. Other bars are merely spliced by over-lapping and depend upon the concrete for the strength of the splice instead of on the steel.

CONCRETE REINFORCEMENT BARS.

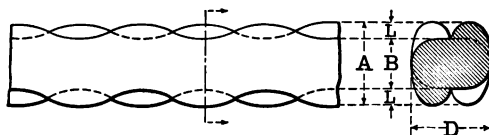
(Continued)

The Slick Wedge Clamp Splice, with greatly decreased lap as compared with the usual lap of forty diameters, provides a large reduction in the weight and cost of the bar material, and the freight and haulage charges thereon. The item of wire for binding the lapped ends of the bars is entirely eliminated. The time, labor and cost in clamping the joint is but a fraction of that required by the ordinary wire tie method.

The total cost, with the less time, labor and lap to install them, makes the Slick Clamps and Wedges the cheapest and best construction; besides, a positive joint is obtained.

Slick Bars will meet the most rigorous tests, and either the square or round bars may be selected by the user with equally satisfactory results.

Comparative Areas and Weights of Slick Round Section Reinforcing Bar and Standard Round Bar.

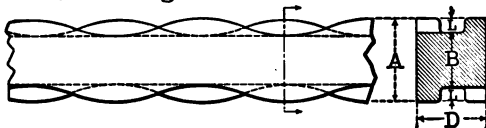


PATENTED MARCH 17, 1908

Section Number	SLICK REINFORCING BAR ROUND SECTION					Area Square Inches	Weight Lbs. per Ft.	STANDARD ROUND BAR	
	Nom- inal Size	D Ins.	A Ins.	B Ins.	L Ins.			Area Square Inches	Weight Lbs. per Ft.
M-494	1 1/4	1 3/8	1 3/8	1 3/8	1 3/8	.049	.17	.0491	.167
M-495	1 1/2	1 5/8	1 5/8	1 5/8	1 5/8	.110	.38	.1104	.376
M-496	1 3/4	1 7/8	1 7/8	1 7/8	1 7/8	.196	.67	.1963	.668
M-497	2	2 1/8	2 1/8	2 1/8	2 1/8	.307	1.04	.3068	1.043
M-498	2 1/4	2 3/8	2 3/8	2 3/8	2 3/8	.442	1.50	.4418	1.502
M-499	2 3/4	2 7/8	2 7/8	2 7/8	2 7/8	.601	2.04	.6013	2.044
M-500	3	3 1/8	3 1/8	3 1/8	3 1/8	.785	2.67	.7854	2.670
M-501	3 1/2	3 3/8	3 3/8	3 3/8	3 3/8	.994	3.38	.9940	3.380
M-502	4	4 1/8	4 1/8	4 1/8	4 1/8	1.227	4.17	1.2272	4.172

CONCRETE REINFORCEMENT BARS.

(Continued)

**Comparative Areas and Weights of Slick Square Section
Reinforcing Bar and Standard Bars.**

PATENTED MARCH 17, 1906.

SLICK REINFORCING BAR SQUARE SECTION								STANDARD SQUARE BAR	
Section Number	Size of Bar	D Ins.	A Ins.	B Ins.	L Ins.	Area Square Inches	Weight Lbs. per Ft.	Area Square Inches	Weight Lbs. per Ft.
M-395	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	.063	.21	.0625	.212
M-396	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	.141	.48	.1406	.478
M-397	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	.250	.85	.2500	.850
M-398	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	.391	1.33	.3906	1.328
M-399	1 5/8	1 5/8	1 5/8	1 5/8	1 5/8	.563	1.91	.5625	1.913
M-400	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	.766	2.60	.7656	2.603
M-401	1 7/8	1 7/8	1 7/8	1 7/8	1 7/8	1.000	3.40	1.0000	3.400
M-402	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1.266	4.30	1.2656	4.303
M-403	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1.563	5.31	1.5625	5.313

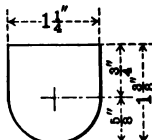
SLICK REINFORCING BAR SQUARE SECTION								STANDARD ROUND BAR		
Section Number	Nom- inal Size	D Ins.	A Ins.	B Ins.	L Ins.	Area Square Inches	Weight Lbs. per Ft.	Size of Bar	Area Square Inches	Weight Lbs. per Ft.
M-405	1 1/8	1 1/8	3/2	5/8	1/16	.049	.17	1 1/8	.0491	.167
M-406	1 1/4	1 1/4	3/2	7/8	3/16	.110	.38	1 1/4	.1104	.376
M-407	1 3/8	1 3/8	2	1	1/8	.196	.67	1 3/8	.1963	.668
M-408	1 1/2	1 1/2	2 1/8	1 1/8	1/8	.307	1.04	1 1/2	.3068	1.043
M-409	1 5/8	1 5/8	2 1/2	1 3/8	3/8	.442	1.50	1 5/8	.4418	1.502
M-410	1 3/4	1 3/4	2 3/4	1 1/2	1/2	.601	2.04	1 3/4	.6013	2.044
M-411	1 7/8	1 7/8	3	1 3/4	5/8	.785	2.67	1 7/8	.7854	2.670
M-412	1 1/2	1 1/2	2 1/2	1 1/2	3/4	.994	3.38	1 1/2	.9940	3.380
M-413	1 1/4	1 1/4	2 1/4	1 1/4	7/8	1.227	4.17	1 1/4	1.2272	4.172

COTTON TIE BUCKLES.

See "Tie Buckles."

COTTER PIN STEEL.

See "Half Rounds."

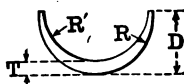
COUPLING LINK STEEL.**M-280.**

5.27 Lbs. Per Foot.

CRANK PINS.

Made to any requirements, oil tempered and annealed.

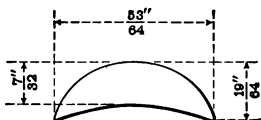
See special catalogue "Cambria Axles and Forgings."

CRESCENTS.

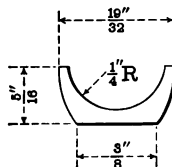
Used principally for baby carriage and velocipede tire.

NOTE.—Crescents are rolled to gauge and weights given are approximate.

Section Number	Size	D	T	R'	R	Weight per Ft.	
	Inches	Inches	Gauge	Inches	Inches	Min. Pounds	Max. Pounds
M-83	3/4	2 1/4	No. 14 to 8	3/8	1 1/2	.272	.479
M-84	1 1/4	2 1/2	No. 14 to 9	3/8	1 3/4	.262	.423
M-85	1 3/4	2 3/4	No. 14 to 12	3/8	1 3/4	.250	.313
M-86	1 1/2	2 1/2	No. 14 to 8	1/2	1 1/2	.230	.401
M-87	1 1/2	2 1/2	No. 14 to 9	1/2	1 1/2	.219	.352
M-88	1 1/2	2 1/2	No. 14 to 12	1/2	1 1/2	.206	.257
M-89	1 1/2	2 1/2	No. 14 to 9	1/2	1 1/2	.190	.300
M-90	1 1/2	2 1/2	No. 14 to 9	1/2	1 1/2	.184	.291
M-91	1 1/2	2 1/2	No. 14 to 12	1/2	1 1/2	.167	.208
M-92	1 1/2	2 1/2	No. 14 to 9	1/2	1 1/2	.169	.265
M-93	1 1/2	2 1/2	No. 14 to 9	1/2	1 1/2	.162	.255
M-94	1 1/2	2 1/2	No. 14 to 9	1/2	1 1/2	.158	.247
M-95	1 1/2	2 1/2	No. 14 to 9	1/2	1 1/2	.151	.237
M-96	1 1/2	2 1/2	No. 14 to 10	1/2	1 1/2	.147	.212
M-97	1 1/2	2 1/2	No. 14 to 11	1/2	1 1/2	.141	.187
M-98	1 1/2	2 1/2	No. 14 to 10	1/2	1 1/2	.136	.196

CRESCENTS.—(Continued)**Special Crescents.****M-573.****M-529.**

.50 Lbs. per Ft.



.26 Lbs. per Ft.

Also see "Channels—Crescent," "Half Ovals—Irregular Shapes" and "Hame Back Steel" herein.

CUSHION SPRINGS.

Made to special order.

**CUTLERY
STEEL.**

Of best special Open
Hearth Steel in bars
of any desired size.

Free from seams or
flaws and susceptible
of high finish.

CUTTER SHOES.

$\frac{3}{4} \times \frac{3}{16}$ to $1\frac{1}{4} \times \frac{1}{2}$ in.
Tapered and bent $5\frac{1}{2}$ to
8 feet long.

(See "Sleigh Shoe Steel.")

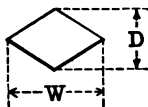
**CRUCIBLE
ANALYSIS STEEL.**

(See "Spring Steel.")

DEFORMED BARS.

Slick Patented Deformed Bars for Concrete Reinforcement, Round and Square Type. In all regular sizes. See "Concrete Reinforcement Bars" herein, and special catalogue.



DIAMOND SHAPE STEEL.

Section Number	W	D	Weight per Foot	Section Number	W	D	Weight per Foot
	Inches	Inches	Pounds		Inches	Inches	Pounds
M-1	$\frac{3}{4}$	$\frac{1}{2}$	.64	M-4	$\frac{7}{8}$	$\frac{5}{8}$	.93
M-2	$\frac{7}{8}$	$\frac{5}{8}$	.80	M-5	$1\frac{1}{8}$	$\frac{3}{4}$	1.00
M-3	$1\frac{1}{8}$	$\frac{3}{4}$	.95	M-6	$1\frac{1}{4}$	$\frac{5}{8}$	1.33

For Blunt Diamond Shapes, see "Coal Drill Steel."

DIE-BLOCK STEEL.

Made from carefully selected Open Hearth Stock, suitable for hammer dies for use in making drop and other forgings.

DOCK OR WHARF SPIKES.

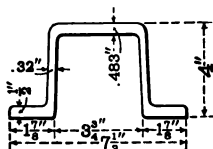
$\frac{1}{2}$ to 1 inch square; 6 to 26 inches long.

DOOR RAIL BAR.

See "BARN DOOR RAIL" herein.

DOOR SPREADER BAR.

For Steel Car Construction.



C-250

19.8 Lbs. per Ft.

DOUBLE HALF OVALS.

See "Coal Drill Steel—Special Sections."

DRAW BAR KEY STEEL.

See "Cold Rolled and Cold Drawn Steel" and "Key Steel."

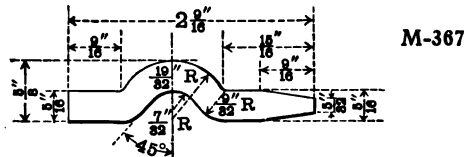
DRAWN STEEL.

Cold Drawn Rounds, Squares, Flats and Hexagons. Miscellaneous Drawn Shapes manufactured under special arrangement. See "Cold Rolled and Cold Drawn Steel" herein.

DRILL STEEL.

For Auger Steel, see "Coal Drill Steel."

For Agricultural Implement Drill Steel, see Section B, herein.

DRILL-POST STEEL.

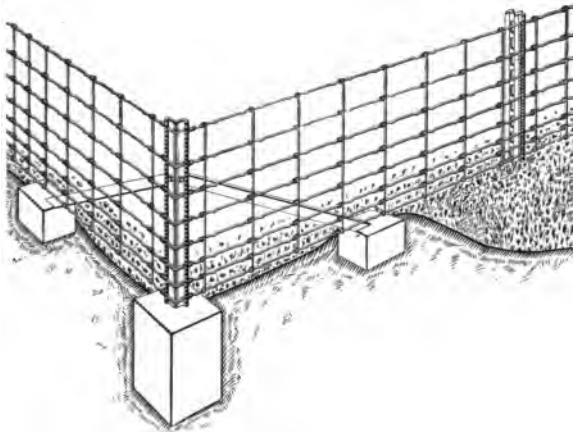
2.73 Lbs. Per Foot.

DROP FORGING STEEL.

In Billets or Bars of any size and grade desired, for making every variety of Drop Forgings. Guaranteed to be of the highest grade of steel for the purpose. Our Drop Forging steel is used by the leading manufacturers of Drop Forgings in the United States. Also see "Forgings."

EXTENSION RAILS.

See "RAILS."

FENCE POSTS.**SLICK METAL FENCE POSTS.**

Slick Metal Fence Posts have been designed with greatest care to meet the demand for an improved and dependable construction.

A fence constructed of Cambria woven wire with the Slick Metal Corner and Line Posts will last for a much longer time than the old-style construction, is small, neat, attractive in appearance and allows the fence line to be burned free from weeds without damage. A fence constructed of wooden posts cannot be burned without destroying the posts themselves.

The Slick Intermediate or Line Posts are made of I-beam cross section with a projecting flange in line with the web and provided with a neat bead or rounding on its exterior edge, this flange being cut with a series of notches in such a way as to provide a large number of tongues and slots by which the fence strand wires can be located and firmly held by bending down the tongue with a hammer. These notches are so numerous that any style of fence will fit on the posts.

FENCE POSTS.—(Continued)

This post is very stiff and strong in a direction across the fence which makes it secure against deformation and it is firmly held in the ground by an anchor plate which gives sufficient bearing on the soil so as to maintain it in upright position.

The posts are lightened and made of ornamental appearance by a series of openings through the web which are of general rectangular form with rounded corners, which, while conducing to economy, do not detract in the slightest from the strength of the post.

One great advantage of the Slick Line Post is that, on account of its small section, it can be driven into the soil with facility, thus obviating the necessity of expensive and laborious work in digging post holes, while, at the same time, the anchor plate holds the post securely in place.

LINE POSTS.**LIGHT SECTION.**

Length of Post Feet	For Fence of Height Not Over Inches	Weight of Post Pounds	Weight of Anchor Plate Pounds	Total Weight Post with Anchor Plate Pounds
6	46	10.2	0.9	11.1
7	56	11.9	0.9	12.8
7½	60	12.7	0.9	13.6
8	66	13.6	0.9	14.5
9	72	15.2	0.9	16.1
10	82	16.9	0.9	17.8

HEAVY SECTION.

6	46	12.6	0.9	13.5
7	56	14.7	0.9	15.6
7½	60	15.7	0.9	16.6
8	66	16.7	0.9	17.6
9	72	18.7	0.9	19.6
10	82	20.8	0.9	21.7

FENCE POSTS.—(Continued)

The End and Corner Posts are made of angle cross section with rounded external corner, around which the fence wires can be bent and drawn taut without danger of breakage of the wires. The posts are provided with outstanding flanges which have notches to receive the strand wires and thereby securely prevent any displacement due to persons climbing the fence or to animals pushing against it. These posts are further provided with angle braces, the lower ends of which should be set in concrete blocks as shown in sketch. Posts are coated, when hot, with asphalt enamel which will preserve them from corrosion. Send for catalogue.

END AND CORNER POSTS.
END POSTS.

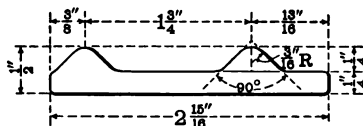
Length of Post Feet	For Fence of Height Not Over Inches	Weight of Post Pounds	Weight of Braces and Bolts Pounds	Total Wt. Post and Fittings Pounds	Number and Length of Braces
6	40	38.9	12.6	51.5	1- 5' 0"
7	46	45.4	15.0	60.4	1- 6' 0"
7½	56	48.6	17.5	66.1	1- 7' 0"
8	60	51.8	18.7	70.5	1- 7' 6"
8½	66	55.0	38.0	93.0	{ 1- 8' 3"
					{ 1- 7' 0"
9	72	58.2	42.9	101.1	{ 1- 9' 3"
					{ 1- 8' 0"
10	82	64.7	53.9	118.6	{ 1-10' 6"
					{ 1- 9' 0"
					{ 1- 1' 9"

CORNER POSTS.

6	40	38.9	25.2	64.1	2- 5' 0"
7	46	45.4	30.0	75.4	2- 6' 0"
7½	56	48.6	35.0	83.6	2- 7' 0"
8	60	51.8	37.4	89.2	2- 7' 6"
8½	66	55.0	76.0	131.0	{ 2- 8' 3"
					{ 2- 7' 0"
9	72	58.2	85.8	144.0	{ 2- 9' 3"
					{ 2- 8' 0"
10	82	64.7	107.7	172.4	{ 2-10' 6"
					{ 2- 9' 0"
					{ 2- 1' 9"

FENCE CHANNELS.

See "Channels" Sections A and B.

FENCE CLAMP BAR.**M-366.** 3.00 Lbs. per Ft.**FENCE STAPLES.**

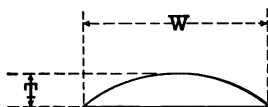
See "Staples (Wire)."

FENCING (Wire).

Square Mesh Field Fencing, all weights, standard heights and spacings.

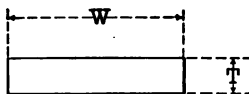
Plain and Barbed Fence Wire, Poultry Fence, etc.

See our special catalogues, "Wire and Nails" and "Cambria Fence."

FILE STEEL (Half Round).

Section Number	W	T	Weight per Foot
	Inches	Inches	Pounds
M-50	.622	.178	.27
M-51	.813	.232	.45
M-52	1.004	.287	.69
M-53	1.195	.341	.98
M-54	1.387	.396	1.32
M-55	1.578	.451	1.71
M-56	1.769	.505	2.18

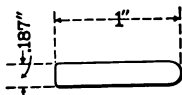
Also see "Half Ovals."

FILE STEEL.**Square Edge.**

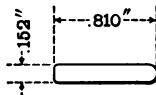
Section Number	Width W	Thickness T	Weight per Foot	Section Number	Width W	Thickness T	Weight per Foot
	Inches	Inches	Lbs.		Inches	Inches	Lbs.
M-539	.620	.116	.25	M-548	1.00	.187	.64
M-540	.620	.155	.33	M-549	1.00	.250	.85
M-568	.715	.134	.33	M-550	1.09	.272	1.01
M-566	.715	.179	.44	M-551	1.18	.221	.89
M-541	.800	.100	.23	M-552	1.18	.295	1.18
M-542	.810	.152	.42	M-553	1.27	.317	1.37
M-543	.810	.202	.56	M-554	1.36	.255	1.18
M-544	.813	.406	1.13	M-555	1.36	.340	1.58
M-545	.905	.170	.53	M-556	1.45	.362	1.79
M-546	.905	.226	.70	M-557	1.54	.385	2.02
M-547	1.00	.125	.43	M-564	1.875	.135	.87

Round Edge.**M-530.**

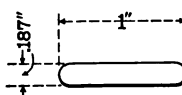
.64 Lbs. per Ft.

**M-531.**

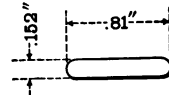
.42 Lbs. per Ft.

**M-537.**

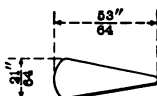
.63 Lbs. per Ft.

**M-538.**

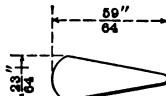
.41 Lbs. per Ft.

**Special.****M-377.**

.59 Lbs. per Ft.

**M-513.**

.73 Lbs. per Ft.



FLATS.

Round Edge. Square Edge. Round Corner.
Width, $\frac{1}{4}$ to 6 inches.

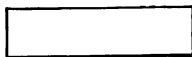
Thickness, $\frac{3}{16}$ to $2\frac{3}{4}$ inches.

Under 1 inch, widths vary by $\frac{1}{64}$ inch.

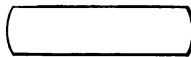
Over 1 inch, widths vary by $\frac{1}{16}$ inch.

Also see "File Steel."

For flats wider than 6 inches see "Plates" and "Bands."



Square Edge.



Round Edge.

SQUARE EDGE FLATS.

Width Inches	Thickness Inches	Width Inches	Thickness Inches
$\frac{1}{4}$ to $\frac{7}{8}$	$\frac{3}{16}$ to $\frac{9}{16}$	$2\frac{1}{4}$ to 3	$\frac{3}{16}$ to $2\frac{1}{4}$
$\frac{1}{8}$ " $1\frac{1}{8}$	$\frac{3}{16}$ " $\frac{1}{2}$	3 " 4	$\frac{3}{16}$ " $2\frac{1}{4}$
$1\frac{1}{8}$ " $1\frac{1}{2}$	$\frac{3}{16}$ " $\frac{7}{8}$	4 " $4\frac{1}{2}$	$\frac{3}{16}$ " $1\frac{1}{2}$
$1\frac{1}{2}$ " $2\frac{1}{4}$	$\frac{3}{16}$ " $1\frac{1}{4}$	$4\frac{1}{2}$ " 6	$\frac{3}{16}$ " $2\frac{3}{16}$

ROUND EDGE FLATS.

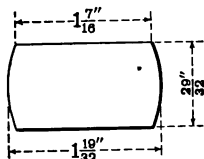
Width Inches	Thickness Inches	Width Inches	Thickness Inches
$\frac{1}{4}$ to $\frac{3}{4}$	$\frac{3}{16}$ to $\frac{3}{8}$	$2\frac{1}{4}$ to $3\frac{1}{2}$	$\frac{3}{16}$ to $1\frac{1}{4}$
$\frac{3}{8}$ " $\frac{1}{2}$	$\frac{3}{16}$ " $\frac{1}{2}$	$3\frac{1}{2}$ " 4	$\frac{3}{16}$ " 1
$\frac{1}{2}$ " $1\frac{1}{8}$	$\frac{3}{16}$ " $\frac{3}{4}$	4 " 6	$\frac{3}{16}$ " $1\frac{1}{2}$
$1\frac{1}{8}$ " 2	$\frac{3}{16}$ " $\frac{7}{8}$	6 " 8	$\frac{3}{16}$ " $\frac{3}{4}$
2 " $2\frac{1}{4}$	$\frac{3}{16}$ " 1	8 " 12	$\frac{3}{16}$ " $\frac{1}{4}$

FLAT BANDS.

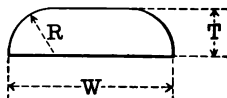
$\frac{3}{8}$ to $\frac{1}{2}$ inches wide; $\frac{1}{8}$ to $\frac{5}{32}$ inch thick
 $\frac{1}{2}$ " 7 " " $\frac{1}{16}$ " $\frac{5}{32}$ " "
 7 " 12 " " $\frac{1}{8}$ " $\frac{5}{32}$ " "

FLATS.—(Continued)
Special Round Edge Flat.

M-102.
 4.75 Lbs. per Ft.



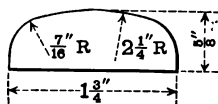
FLATS WITH TWO ROUND CORNERS.
Round Bevel Edge, Reach Plate.



Used for reach and shaft reinforcement, etc.

Section Number	W Ins.	T Ins.	R Ins.	Weight per Foot Pounds	Section Number	W Ins.	T Ins.	R Ins.	Weight per Foot Pounds
M-25	5/8	1/4	1/4	.45	M-37	1 1/8	1/4	7/32	.88
M-26	3/4	1/8	5/16	.32	M-38	1 1/8	3/32	3/32	.99
M-27	3/4	3/16	3/16	.47	M-39	1 1/8	5/16	1/4	1.14
M-28	3/4	1/2	1/4	.54	M-40	1 1/8	1/8	5/16	1.12
M-535	3/4	5/16	1/4	.71	M-41	1 1/8	3/8	5/16	1.30
M-29	25/32	No. 10 .134	1/4	.34	M-525	1 1/8	3/8	1/4	1.32
M-574	13/16	3/16	1/8	.44	M-42	1 1/4	9/32	3/32	1.13
M-30	7/8	1/8	5/16	.37	M-43	1 1/4	1/8	1/4	1.24
M-31	7/8	3/16	3/16	.55	M-44	1 1/4	3/8	1/8	1.45
M-32	7/8	1/4	1/2	.65	M-45	1 3/8	3/4	1/8	1.60
M-33	1	1/2	3/32	.74	M-46	1 3/8	1 1/8	1/8	.62
M-34	1	5/16	1/2	.97	M-47	1 3/8	1 1/8	5/16	1.77
M-35	1	3/8	1/2	1.23	M-48	1 3/4	1 3/8	3/8	3.65
M-36	1 1/8	7/32	3/4	.77	M-49	2	1 5/8	5/8	4.18

Special Round Bevel Edge.



M-370.

3.30 Lbs. Per Foot.

FORGINGS.

Axles, Locomotive Forgings, Car Forgings, Shafts, Crank Pins, Piston-Rods and special shapes.

See "Car Axles" and "Car Forgings" herein, and special catalogue of "Cambria Axles and Forgings."

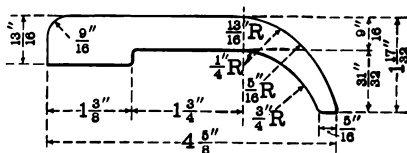
FORK STEEL.

$1\frac{1}{4}$ to $6\frac{1}{2}$ x $\frac{3}{8}$ to $\frac{5}{8}$ inches.

Of Special Open Hearth Stock, ductile in forging, tough and strong. Tempers well and is very elastic. Suitable for coke forks, pitch forks, spading forks, etc., and used by the best makers in this country.

GUIDE BAR.

Special Chain Guide for Mining Machine.



M-519.

9.87 Lbs.
per Ft.

GUN BARREL STEEL.

High grade steel made especially for this purpose. Carefully rolled and straightened and absolutely free from flaws, seams, and any imperfections. Readily drilled and turned.

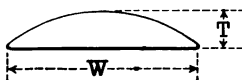
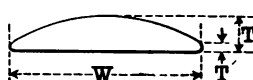


A diagram of a semi-elliptical arch. The width is labeled W and the height is labeled T .

Width Ins.	Thickness—Inches										
	$\frac{1}{8}$	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$
$\frac{3}{16}$	.115	.150									
$\frac{7}{16}$	.132	.170	.211								
$\frac{1}{2}$	.149	.191	.235	.28							
$\frac{9}{16}$	.166	.211	.26	.31	.37						
$\frac{5}{8}$	.183	.232	.28	.34	.40	.46					
$\frac{11}{16}$	.200	.25	.31	.37	.43	.49					
$\frac{3}{4}$	.217	.28	.33	.40	.46	.53	.60				
$\frac{13}{16}$	.235	.30	.36	.43	.49	.56	.64				
$\frac{7}{8}$	.25	.32	.39	.46	.53	.60	.68	.76	.84		
$\frac{15}{16}$	.27	.34	.41	.49	.56	.64	.72	.80	.89		
1	.29	.36	.44	.51	.59	.68	.76	.85	.94		
$1\frac{1}{16}$	.32	.41	.49	.57	.66	.75	.84	.94	1.04		
$1\frac{1}{4}$	.36	.45	.54	.64	.73	.83	.93	1.03	1.14		
$1\frac{3}{8}$	....	....	....	....	....	....	1.10	1.22	1.34	1.58	
$1\frac{1}{2}$	....	....	....	....	....	....	1.27	1.41	1.54	1.82	

Width Ins.	Thickness—Inches										
	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$1\frac{1}{8}$	$\frac{3}{4}$
$1\frac{1}{8}$	1.08	1.22	1.36	1.50	1.64	1.94	2.24	2.56			
2	1.15	1.30	1.44	1.60	1.75	2.06	2.38	2.71	3.04		
$2\frac{1}{4}$	1.29	1.45	1.62	1.79	1.96	2.30	2.65	3.01	3.38	3.76	4.15
$2\frac{1}{2}$	1.43	1.61	1.79	1.98	2.16	2.54	2.92	3.31	3.71	4.12	4.54
$2\frac{3}{4}$	....	....	1.97	2.17	2.37	2.78	3.20	3.62	4.05	4.49	4.94
3	....	....	2.14	2.36	2.58	3.03	3.48	3.93	4.39	4.87	5.35
$3\frac{1}{4}$	....	....	2.32	2.56	2.79	3.27	3.75	4.24	4.74	5.24	5.75
$3\frac{1}{2}$	....	....	2.50	2.75	3.00	3.51	4.03	4.55	5.08	5.62	6.16
$3\frac{3}{4}$	....	....	2.67	2.94	3.21	3.76	4.31	4.87	5.43	6.00	6.57

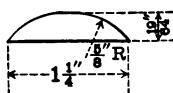
Width Ins.	Thickness—Inches										
	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	$\frac{15}{16}$	1
4	3.42	4.01	4.59	5.18	5.78	6.38	6.99	7.60	8.21	8.82	9.43

HALF OVALS (Special).**Sharp Edge.****Blunt Edge.****SHARP EDGE.**

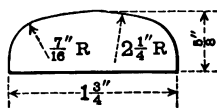
Section Number	W Inches	T Inches	Weight per Ft. Lbs.	Section Number	W Inches	T Inches	Weight per Ft. Lbs.
M-116	$\frac{3}{8}$	$\frac{2}{32}$	.13	M-122	$\frac{3}{8}$	No. 14	.16
M-117	$\frac{1}{2}$	No. 12	.15	M-123	$\frac{1}{2}$	No. 13	.19
M-118	$\frac{1}{2}$	$\frac{2}{32}$	.19	M-124	$\frac{11}{16}$	$\frac{11}{16}$	.56
M-119	$\frac{1}{2}$	No. 12	.17	M-125	$\frac{11}{16}$	$\frac{11}{16}$	.72
M-120	$\frac{1}{2}$	No. 14	.13	M-126	$1\frac{1}{16}$	$\frac{1}{2}$	.66
M-121	$\frac{1}{2}$	No. 13	.15	M-127	$1\frac{1}{16}$	$\frac{1}{16}$	.83

BLUNT EDGE.

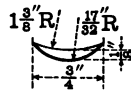
Section Number	W Ins.	T Inches	T' Inches	Wt. per Ft. Lbs.	Section Number	W Ins.	T Inches	T' Inches	Wt. per Ft. Lbs.
M-128	$1\frac{1}{8}$	No. 3	No. 14	1.28	M-137	$2\frac{1}{2}$	$\frac{5}{8}$	$\frac{1}{16}$	3.84
M-129	$1\frac{1}{8}$	No. 2	No. 13	1.35	M-138	$2\frac{1}{2}$	$\frac{1}{16}$	$\frac{1}{16}$	1.29
M-130	$1\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	2.07	M-139	$2\frac{1}{2}$	$\frac{5}{8}$	$\frac{1}{16}$	1.12
M-131	2	No. 8	No. 14	.92	M-140	$2\frac{1}{2}$	$\frac{3}{32}$	$\frac{5}{16}$	1.36
M-132	2	$\frac{3}{8}$	$\frac{1}{8}$	2.00	M-141	3	$\frac{5}{8}$	$\frac{3}{16}$	1.00
M-133	2	$\frac{1}{16}$	$\frac{1}{16}$	2.36	M-142	3	$\frac{1}{8}$	$\frac{1}{16}$	1.05
M-134	2	$\frac{1}{2}$	$\frac{1}{16}$	2.42	M-143	3	No. 7	No. 16	1.46
M-135	$2\frac{1}{2}$	$\frac{1}{32}$	$\frac{5}{16}$	2.68	M-144	3	$\frac{7}{16}$	$\frac{1}{16}$	3.70
M-136	$2\frac{1}{2}$	$\frac{1}{16}$	$\frac{1}{16}$	3.03	M-145	$3\frac{1}{2}$	$\frac{5}{16}$	$\frac{1}{16}$	1.44

Irregular Shapes.**M-298.**

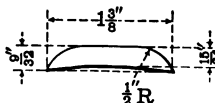
Shaft Steel.
1.04 Lbs. per Ft.

M-370.

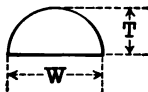
3.30 Lbs. Per Foot.

M-385.

Concave Half Oval.
.25 Lbs. per Ft.

**M-299.**

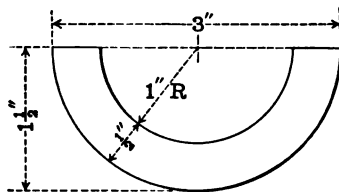
1.06 Lbs. per Ft.

HALF ROUNDS.

W	T	Weight per Foot	W	T	Weight per Foot	W	T	Weight per Foot
Ins.	Ins.	Pounds	Inches	Inches	Pounds	Inches	Inches	Pounds
$\frac{3}{16}$	$\frac{3}{16}$	.19	$\frac{11}{16}$	$\frac{11}{16}$	.63	$1\frac{1}{8}$	$\frac{9}{16}$	1.69
$\frac{7}{16}$	$\frac{7}{16}$	.26	$\frac{1}{2}$	$\frac{1}{2}$	.75	$1\frac{1}{2}$	$\frac{1}{2}$	3.00
$\frac{1}{2}$	$\frac{1}{2}$	.33	$\frac{13}{16}$	$\frac{13}{16}$	.88	2	1	5.34
$\frac{17}{16}$	$\frac{17}{16}$	.38	$\frac{1}{8}$	$\frac{1}{8}$	1.02	3	$1\frac{1}{2}$	12.02
$\frac{9}{16}$	$\frac{9}{16}$	.42	$\frac{15}{16}$	$\frac{15}{16}$	1.17	..	..	....
$\frac{5}{8}$	$\frac{5}{8}$	.52	1	$\frac{1}{2}$	1.34	..	..	....

HALF ROUNDS—COTTER PIN.

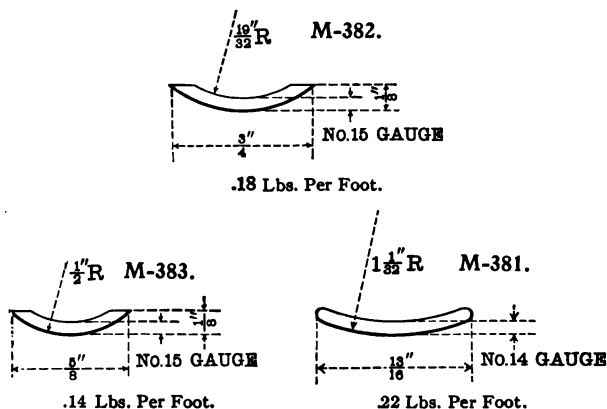
Section No.	Size	W	T	Weight per Ft.	Section No.	Size	W	T	Weight per Ft.
	Ins.	Ins.	Ins.	Lbs.		Ins.	Ins.	Ins.	Lbs.
M-7	$\frac{3}{16}$	.360	.180	.17	M-10	$\frac{9}{16}$	.530	.265	.38
M-8	$\frac{7}{16}$	.438	.219	.26	M-11	$\frac{5}{8}$	.590	.295	.47
M-9	$\frac{1}{2}$	.480	.240	.31	M-12	$\frac{3}{4}$	.710	.355	.67

HALF ROUND—HOLLOW.

M-281.
6.7 Lbs.
per Ft.

HALF ROUND—SPECIAL.

M-394.
.14 Lbs. per Ft.

HAME BACK STEEL.**HAMMER STEEL.**

Supplied in all sizes, both squares and flats, of finest special Open Hearth Stock, guaranteed to take good temper and to be free from seams. Suitable for smith and coal sledges, spike mauls, heavy and light hand-hammers, etc.

HATCH SECTION.

See "Z-Bar."

HATCHET STEEL.

This is the finest special Open Hearth Stock furnished in flat or square bars of any desired sizes, for making solid steel hatchets. This steel can be drifted, welded and tempered, and tools made therefrom will hold their edges.

HEADS.**Circular Plates.**

Diameters 30 to 127 inches. Thickness $\frac{3}{16}$ to 2 inches.

HEXAGONS.

Any Sizes not listed made specially to order.

Size	Weight per Foot	Size	Weight per Foot	Size	Weight per Foot	Size	Weight per Foot
Inches	Pounds	Inches	Pounds	Inches	Pounds	Inches	Pounds
$\frac{3}{32}$	.24	$\frac{1}{8}$	1.04	$\frac{1}{8}$	2.26	$1\frac{3}{8}$	5.56
$\frac{5}{16}$	.29	$\frac{3}{16}$	1.10	$\frac{3}{16}$	2.42	$1\frac{7}{8}$	6.08
$\frac{1}{4}$	.35	$\frac{1}{2}$	1.15	$\frac{1}{2}$	2.59	$1\frac{1}{2}$	6.62
$\frac{5}{8}$	.42	$\frac{3}{4}$	1.21	$\frac{3}{4}$	2.76	$1\frac{9}{16}$	7.18
$1\frac{1}{8}$	.49	$\frac{7}{8}$	1.27	1	2.95	$1\frac{5}{8}$	7.77
$1\frac{3}{8}$	.53	$1\frac{1}{8}$	1.33	$1\frac{1}{8}$	3.13	$1\frac{1}{4}$	8.38
$1\frac{1}{2}$	.57	$1\frac{3}{8}$	1.39	$1\frac{1}{4}$	3.32	$1\frac{3}{4}$	9.01
$1\frac{3}{4}$	.65	$1\frac{1}{2}$	1.52	$1\frac{3}{8}$	3.73	$1\frac{7}{8}$	9.67
2	.74	$1\frac{3}{4}$	1.59	$1\frac{1}{2}$	3.93	$1\frac{1}{2}$	10.34
$2\frac{1}{8}$	.83	2	1.66	$1\frac{5}{8}$	4.15	$1\frac{1}{8}$	11.04
$2\frac{1}{4}$	.88	$2\frac{1}{8}$	1.79	$1\frac{3}{4}$	4.60	2	11.77
$2\frac{1}{2}$	.93	$2\frac{1}{4}$	1.95	$1\frac{7}{8}$	5.07	$2\frac{1}{8}$	12.51

Hexagon bars are generally furnished of free cutting steel suitable for making tap bolts, screws, etc., but can be furnished of other grades, if desired.

HINGE STEEL.

$1\frac{1}{8} \times \frac{1}{8}$ to $2\frac{1}{2} \times \frac{9}{32}$ inches.

Of soft, tough stock. Special sizes to order.

HOOP STEEL.

For Barrels, Casks, Tanks, Pipes, etc. See "Bands," "Flats," "Pipe and Tank Bands," and "Barrel Hoop Steel."

HORSE SHOE STEEL.

Furnished in bars of any desired size, quality guaranteed suitable for the purpose. As ductile as iron and of greater strength.

INGOTS.

OPEN HEARTH OR BESSEMER.

REGULAR:

Weights: 7,300 to 35,000 pounds.

Top Dimensions: $20\frac{1}{2}$ x 18 to 50 x $29\frac{1}{2}$ inches.

Butt Dimensions: $22\frac{1}{2}$ x 20 to $52\frac{1}{2}$ x 32 inches.

Heights: 74 to 96 inches.

INVERTED:

Weights: 7,800 to 18,600 pounds.

Top Dimensions: $23\frac{1}{2}$ x 20 to 34 x 30 inches.

Butt Dimensions: $20\frac{1}{4}$ x $16\frac{1}{2}$ to 30 x 26 inches.

Heights: 74 inches.

FORGING INGOTS—LENGTHS 18 FEET.

CORRUGATED CIRCULAR:

Weights: 23,800 to 55,000 pounds.

Top Dimensions: 20 inch to 34 inch diameters.

Butt Dimensions: $22\frac{1}{2}$ inch to 38 inch diameters.

SLAB:

Weights: 26,000 to 36,500 pounds.

Top Dimensions: 28 x 16 to 36 x 20 inches.

Butt Dimensions: 30 x 18 to 38 x 22 inches.

JUMPER RAILS.

See "RAILS."

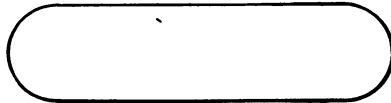
KEY STEEL.

Smooth Finished, Hot Rolled or Cold Drawn, as specified.

SQUARES, $\frac{5}{16}$ to $1\frac{1}{2}$ inches.

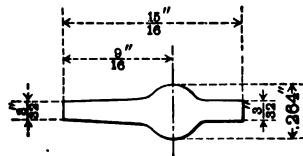
FLATS, $\frac{3}{8} \times \frac{3}{16}$ to $2 \times 1\frac{1}{2}$ inches.

Round Edge for Draw Bars, Etc.



Width, $4\frac{1}{2}$ to 6 inches; thickness, $1\frac{1}{8}$ inches. Also "Farlow" Links and Keys.

For Door Locks.



M-304.

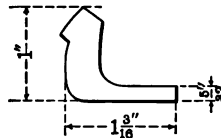
.43 Lbs. Per Foot.

KNUCKLE PINS.

Made to special order.

LAZY BACK STEEL.

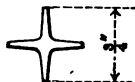
Of selected Open-Hearth steel, furnished in any sizes desired.

LEVER BAR.

M-483.

"Interrupted Lever."

1.63 Lbs. per Foot.

LIGHTNING ROD STEEL.

M-386

.33 Lbs. Per Foot

LINKS.

Links and Pins for Conveyor Lines
"Farlow" Links and Keys

MACHINE BOLTS.

See "Bolts."

MACHINERY STEEL (GAUTIER BRAND).

"Iron Finish" Machinery Steel.

All sizes of Round, Square and Flat Bars.

"SMOOTH FINISH" Machinery Steel.

Rounds, $\frac{3}{8}$ to $2\frac{7}{8}$ inches, diameter.

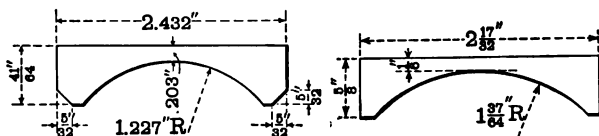
Squares, $\frac{3}{8}$ to $2\frac{1}{2}$ inches, diameter.

Flats, up to 8 inches wide and 1 inch thick.

Made with Special Finish and carefully straightened.

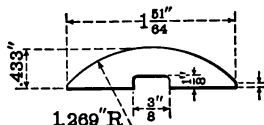
Machine cut to exact lengths, if desired. Guaranteed within $\frac{1}{16}$ inch of diameter specified.

This is the best grade of machinery steel on the market, is made from selected stock only and represents the highest obtainable excellence in hot rolled material. It is free cutting stock, will work readily in all machine tools, and is without seams, flaws or imperfections.

MAGNETO STEEL.**Pole Pieces.**

M-286. 3.40 Lbs. per Ft.
Customer's No. R1026

M-369. 2.90 Lbs. per Ft.

Armature Segment.

M-287. 1.90 Lbs. per Ft.
Customer's No. R1025.

MATTOCK STEEL.

Any desired size of finest quality, special Open-Hearth stock, warranted to stand drifting, plating and tempering, and to hold edge.

MINE CARS.

Steel Mine Cars furnished complete or in part.
Mine Car Axles and Wheels, Mine Car Forgings.

MINE TIES.

Steel Ties for Mine and Industrial Railroads.
See "TIES—STEEL."

MOULDING SECTION.

T-Section for Automobile Body Moulding.
See "TEES."

NAILS (WIRE).

Common Nails, Smooth and Barbed—2d to 60d.

Common Brads—2d to 60d.

Flooring Brads—6d to 20d.

Finishing Nails—2d to 20d.

Casing Nails—2d to 40d.

Smooth Box Nails—2d to 40d.

Barbed Box Nails—2d to 40d.

Barbed Car Nails, Heavy. Annealed or Bright—
4d to 60d.

Barbed Car Nails, Light. Annealed or Bright—
4d to 60d.

Smooth Foundry Nails— $\frac{3}{4}$ to $3\frac{1}{2}$ inches and longer.

Barbed Foundry Nails— $\frac{3}{4}$ to $3\frac{1}{2}$ inches and longer.

Plaster Board Nails—1 to $1\frac{1}{2}$ inches.

Fence Nails—5d to 20d.

Boat Nails (Light)—4d to 20d.

Boat Nails (Heavy)—4d to 20d.

Hinge Nails (Light). Annealed and Bright.
Round or countersunk Heads—4d to 20d.

Hinge Nails (Heavy). Annealed and Bright.
Round or counter-sunk Heads—4d to 20d.

Spikes. Oval or flat head. Diamond or chisel
point—10d to 60d and 7 to 12 inches.

Tobacco Nails—4d to 10d.

Clinch Nails—Bright or Annealed. 2d to 20d.

Clout Nails— $\frac{3}{4}$ to $1\frac{1}{2}$ inches.

Barbed Dowel Pins— $\frac{5}{8}$ to $1\frac{1}{2}$ inches.

Barbed Roofing Nails— $\frac{3}{4}$ to 2 inches.

NAILS (WIRE).

(Continued)

Slating Nails—2d to 6d.

Shingle Nails—3d to 10d.

Barrel Nails— $\frac{5}{8}$ to $1\frac{1}{2}$ inches.

Fine Nails—2d Extra Fine, 2d, 3d, 4d, and 3d Extra Fine.

Lining Nails— $\frac{3}{4}$ to 1 inch.

Barbed Berry Box Nails— $\frac{3}{4}$ to $1\frac{1}{4}$ inches.

Smooth Berry Box Nails— $\frac{3}{4}$ to $1\frac{1}{4}$ inches.

Blued Nails for Lathing—2d and 3d, fine.

Galvanized Nails for Shingling—3d and 4d. Other galvanized nails on application.

Large Head Barbed Roofing Nails— $\frac{3}{4}$ to $1\frac{3}{4}$ inches length.

Cement Coated Nails. All sizes.

For further information regarding nails, wire and wire products, see special catalogues of "WIRE AND NAILS," "CEMENT COATED NAILS," etc.

NUTS (HOT PRESSED).

U. S. STANDARD

SQUARE:

For Bolts $\frac{3}{8}$ inch to 2 inches diameter.

HEXAGON:

For Bolts $\frac{3}{8}$ inch to $2\frac{1}{4}$ inches diameter.

Blank and tapped.

NUT STEEL.

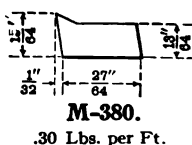
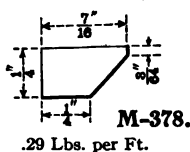
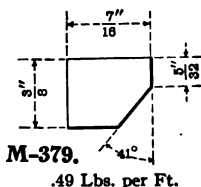
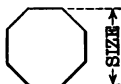
Square or flat bars of any size desired. This steel can be forged or cold pressed, is tough, soft, and can be tapped as easily and rapidly as iron.

SQUARE EDGE NUT STEEL.**Flats.**

Size Inches	Weight, Lbs. per Foot	Size Inches	Weight, Lbs. per Foot
$1\frac{1}{32} \times \frac{1}{8}$	3.37	$1\frac{1}{2} \times 1\frac{3}{8}$	7.06
$1\frac{1}{8} \times \frac{1}{8}$	4.38	$1\frac{1}{2} \times 1\frac{7}{8}$	7.25
$1\frac{1}{4} \times \frac{1}{4}$	4.51	$1\frac{1}{2} \times 1\frac{1}{2}$	8.95
$1\frac{1}{2} \times 1\frac{1}{8}$	5.65	$2\frac{1}{4} \times 1\frac{1}{2}$	10.53
$1\frac{1}{2} \times 1\frac{1}{4}$	5.78	$2\frac{1}{2} \times 1\frac{1}{2}$	12.60

NUT LOCK STEEL.

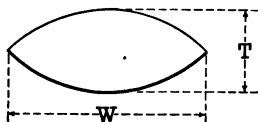
Supplied in any sizes or sections desired. Made of best quality spring steel, and accurately rolled to size. Also see "Bevel Edge Steel," Section B.

**OCTAGONS.**

Generally made of hard steel, suitable for hand-bars, hand-drills, chisels, etc. Other grades can be furnished, if desired.

Size Inches	Weight per Foot Pounds	Size Inches	Weight per Foot Pounds	Size Inches	Weight per Foot Pounds	Size Inches	Weight per Foot Pounds
$\frac{5}{16}$	.28	$\frac{9}{16}$	.89	$1\frac{1}{8}$	1.86	$1\frac{1}{2}$	3.57
$\frac{3}{8}$	.40	$\frac{7}{8}$	1.10	$1\frac{3}{8}$	2.16	..	..
$\frac{7}{16}$	.54	$1\frac{1}{4}$	1.33	$1\frac{1}{2}$	2.48	..	..
$\frac{1}{2}$	.71	$\frac{3}{4}$	1.58	1	2.82	..	..

OVALS (STANDARD).



Weight of Each Size in Pounds per Lineal Foot.

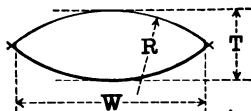
Width Ins.	Thickness—Inches										
	$\frac{1}{8}$	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{13}{32}$	$\frac{7}{16}$
$\frac{3}{8}$	.109	.137	.167	.198	.230						
$\frac{13}{32}$	.117	.148	.180	.213	.247						
$\frac{7}{16}$	.126	.159	.193	.228	.26	.31	.34				
$\frac{11}{16}$	.135	.170	.206	.243	.28	.32	.36				
$\frac{1}{2}$	.143	.180	.218	.26	.30	.34	.38	.42	.47		
$\frac{17}{32}$	.152	.191	.231	.27	.31	.36	.40	.45	.49		
$\frac{9}{16}$	.161	.202	.244	.29	.33	.38	.42	.47	.52	.57	.62
$\frac{19}{32}$	.170	.213	.26	.30	.35	.40	.44	.49	.54	.60	.65
$\frac{5}{8}$	.179	.224	.27	.32	.37	.41	.46	.52	.57	.63	.68
$\frac{11}{8}$	....	.25	.30	.35	.40	.45	.51	.56	.62	.67	.72
$\frac{3}{4}$	....	.27	.32	.37	.44	.49	.55	.61	.67	.73	.79
$\frac{13}{8}$	....	....	.35	.41	.47	.53	.59	.66	.72	.78	.85
$\frac{7}{8}$	....	....	....	....	.50	.57	.64	.70	.77	.84	.91
$\frac{15}{8}$	....	....	....	....	.54	.61	.68	.75	.82	.90	.97
1	....	....	....	....	.57	.65	.72	.80	.87	.95	1.03
$1\frac{1}{8}$	....	....	....	....	....	....	....	....	.98	1.06	1.15
$1\frac{1}{4}$	....	....	....	....	....	....	....	....	1.08	1.18	1.27

Additional sizes on next page.

OVALS (STANDARD).

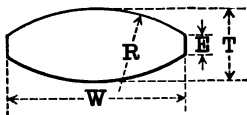
(Continued)

Width Ins.	THICKNESS INCHES										
	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$
$\frac{5}{8}$	.73	.79									
$\frac{1}{2}$	.80	.86									
$\frac{3}{4}$	.86	.92	.99	1.06							
$\frac{1}{4}$	.92	.99	1.06	1.13							
$\frac{3}{8}$	.98	1.05	1.13	1.20	1.28	1.36					
$\frac{1}{2}$	1.04	1.12	1.20	1.28	1.36	1.44					
1	1.11	1.19	1.27	1.35	1.44	1.52	1.61	1.70	1.88		
$1\frac{1}{8}$	1.24	1.32	1.41	1.50	1.60	1.69	1.78	1.88	2.07	2.28	2.48
$1\frac{1}{4}$	1.37	1.46	1.56	1.66	1.76	1.86	1.96	2.06	2.27	2.49	2.71

OVALS (SPECIAL).

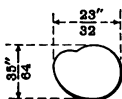
Section Number	W	T	R	Weight per Foot
	Inches	Inches	Inches	Pounds
M-526	$\frac{7}{16}$	$\frac{7}{64}$	..	1.10
M-104	$\frac{3}{16}$	$\frac{23}{64}$	$\frac{11}{16}$	.45
M-105	$\frac{1}{2}$	$\frac{13}{64}$	..	.28
M-106	$\frac{1}{2}$	No. 5	..	.26
M-576	$\frac{33}{64}$	$\frac{3}{8}$	$\frac{23}{64}$	.59
M-107	$\frac{5}{8}$	$\frac{7}{64}$	..	.18
M-108	$\frac{5}{8}$	$\frac{11}{64}$	..	.24
M-575	$\frac{23}{32}$	$\frac{3}{8}$	$\frac{23}{32}$	.63
M-109	$\frac{11}{16}$	No. 8	$\frac{13}{16}$	.28

We make a special grade of extra smooth finish Ovals for carriage hardware work; bars rolled straight and free from twist and wind.

OVALS (BLUNT).

These Sections are also used for Coal Drills and Augers.

Section Number	W	T	E	R	Weight per Foot
	Inches	Inches	Inches	Inches	Pounds
M-110	$1\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{32}$	$1\frac{15}{32}$	1.24
M-111	$1\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{32}$	$2\frac{1}{16}$	1.50
M-112	$1\frac{11}{16}$	$\frac{7}{16}$	$\frac{1}{8}$	$2\frac{3}{8}$	1.94
M-113	$1\frac{3}{4}$	$\frac{7}{16}$	$\frac{3}{32}$	$2\frac{1}{4}$	1.94
M-114	2	$\frac{7}{16}$	$\frac{3}{16}$	5	2.12
M-115	2	$\frac{7}{16}$	$\frac{1}{8}$	$3\frac{5}{16}$	2.38

Special Oval—Odd Shape.**M-436.**

1.02 Lbs. per Ft.

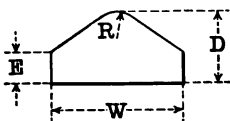
PEDAL CRANK STEEL.

Made of high-grade stock well adapted for Bicycle Forgings and fittings, as evidenced by its extensive use.

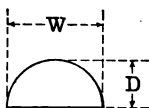
Furnished in Bars of any size desired.

PEDESTAL WAY LINERS.

Special Product—Made to Order.

PIANO BAR STEEL.

Section Number	W	D	E	R	Weight per Foot
	Inches	Inches	Inches	Inches	Pounds
M-307	$\frac{5}{8}$	$\frac{5}{16}$	$\frac{19}{128}$	$\frac{9}{64}$	.51
M-308	$\frac{21}{32}$	$\frac{23}{64}$	$\frac{29}{128}$	$\frac{9}{64}$	.64
M-309	$\frac{11}{16}$	$\frac{3}{8}$	$\frac{3}{16}$	$\frac{9}{64}$	.71

HALF ROUND PIANO BARS.

Section Number	W	D	Weight per Foot
	Inches	Inches	Pounds
M-560	$\frac{1}{2}$	$\frac{1}{4}$	.34
M-559	$\frac{23}{64}$	$\frac{5}{16}$	.52
M-310	$\frac{11}{16}$	$\frac{11}{32}$	.63
M-311	$\frac{3}{4}$	$\frac{3}{8}$	.75
M-558	$\frac{7}{8}$	$\frac{7}{16}$	1.02

PICK STEEL.

$\frac{3}{4}$ to $2\frac{1}{2}$ inches wide x $\frac{1}{4}$ to $1\frac{1}{4}$ inches thick.

Of best quality Open Hearth stock. Warranted to stand drifting, forging and tempering, and to take a high polish and handsome finish. Will stand dressing and retempering.

PILING.

Sheet Piling—Corrugated “Wemlinger” Piling. $\frac{1}{8}$ to $\frac{5}{8}$ inches thick, various widths and lengths for trenches, coffer-dams and construction work of all kinds.

PIN STEEL.

For Crank Pins, Rocker Pins, Chain Pins, etc. In Rounds or Squares as desired.

PISTON RODS.

All sizes, made to any requirements, oil tempered and annealed, if so specified.

PIPE.

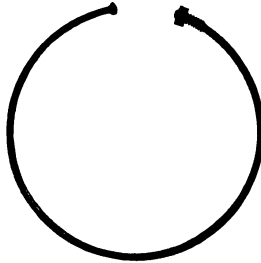
Riveted Steel Pipe 3 feet to 9 feet diameter—lengths to 30 feet, ready for laying. Larger diameters curved, punched and scarfed for assembling in field. Hot dipped and coated with mineral pipe coatings.

The illustration below is part of a 66-inch steel pipe line, fourteen miles long, which we recently built complete and laid in place.



PINS AND LINKS.Approximate Size, $\frac{1}{4}$ 

These links and pins are for use in making conveyor chains. They are strong and hard to resist wear.

PIPE OR TANK BANDS.

These Bands are made from $\frac{1}{4}$ -inch to $1\frac{1}{4}$ -inch diameter round steel with rolled thread and in lengths up to 32 feet.

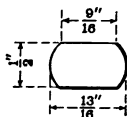
They are furnished straight or curved, as desired, for pipes and tanks from 1 foot to 10 feet diameter. These bands can be furnished of plain finish, or with a protective coating applied hot or cold, as specified.

THE HEAD AND THE ROLLED THREAD ARE OF GREATER STRENGTH THAN THE BODY OF THE ROD.

These Bands are connected at the ends by means of malleable castings of special form.

The illustration below is part of a 44-inch wooden stave pipe line fitted with our pipe bands.



PITMAN BAR.**M-376.**

1.30 Lbs. per Ft.

PLATES.**SHEARED PLATES.**

Widths, 24 inches to 126 inches.

Thickness, $\frac{3}{16}$ inch to 2 inches.

All lengths.

THIN SHEARED PLATES OR SHEETS.Widths, $6\frac{1}{8}$ to 34 inches.

Thickness, .065 to .165 inches.

EDGED (UNIVERSAL) PLATES.Widths, $6\frac{1}{8}$ to 36 inches.Thickness, $\frac{3}{16}$ to 2 inches.

All lengths.

CIRCULAR PLATES (Heads).

Diameters, 30 to 126 inches.

Thickness, $\frac{3}{16}$ to 2 inches.**SKETCH PLATES.**

Sheared from all regular sizes. No incuts.

For further information giving all sizes, widths and lengths of sheared and universal plates, see special plate lists.

PLATE WASHERS.Diameters, $\frac{9}{16}$ inch to $4\frac{1}{2}$ inches.

Thickness, No. 18 to No. 8 gauge.

See "WASHERS - PLATE" for complete list of sizes.

PLANISHED STEEL.

Square Bars— $\frac{7}{32}$ to $2\frac{1}{2}$ inches.

POULTRY FENCE.

In six designs, 24 to 58 inch heights.

Put up in 10, 20 and 30 rod rolls.

POULTRY NETTING STAPLES.

In $\frac{3}{4}$, $\frac{7}{8}$ and 1 inch lengths. No. 14 W. & M. Gauge. Galvanized. See "Staples (Wire)."

For further information regarding Poultry Fence and Staples see special catalogue "WIRE AND NAILS."

PRESSED STEEL SHAPES FOR CARS, ETC.**LIST OF PRESSED STEEL OR FLANGED CAR PARTS**

Truck Bolsters.	Drop Doors.
Side Sills.	Longitudinal Ridge
Center Sills.	Stiffeners.
End Sills.	Cross Ridge Supports.
Draft Sills.	Cross Body Ties.
Draft Lugs.	Diagonal Braces.
Sub-Side Sills.	Door Spreaders.
Side Stakes.	Air Reservoir Supports.
End Stakes.	Push Pole Pockets.
Corner Stakes.	Body Corner Caps.
Outside Hopper Plates.	Door Hinge Butts.
Inside Hopper Plates	Bolster Diaphragms.
Side Plates.	Wheel Diaphragms.
End Plates.	Cross Bearer Diaphragms.
Floor Plates.	Hopper Diaphragms.
Longitudinal Ridge	Door Diaphragms.
Plates.	Center Diaphragms.
Cross Ridge Plates.	Center Sill Diaphragms.
End-Plate Stiffeners.	Bolster Center Diaphragms.
Hopper Doors.	

Also see "CAR FORGINGS."

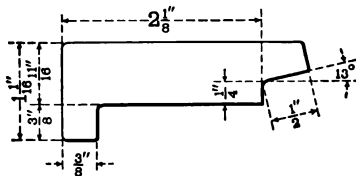
(See "Spring Steel.")

Of fine, smooth finish, easily polished.

Section Number	Size Number	W	Weight per Foot
		Inches	Pounds
M-365	1	2 $\frac{1}{4}$	2.74
M-364	2	2 $\frac{1}{8}$	3.00

Six designs. In sizes for rails 30 to 100 pounds per yard.

6.22 Lbs. per Ft.



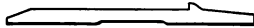
RAILROAD TIES.

Metal Ties for mine and industrial railroads,
for rails 12 to 60 lbs. per yard.

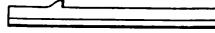
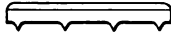
See "TIES—STEEL"

RAILROAD TIE PLATES.

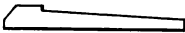
Plain, Shoulder, Guard Rail and Special Tie
Plates made to order.



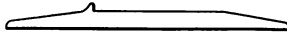
Philadelphia & Reading and Central Railroad of New Jersey



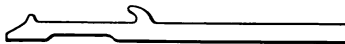
Baltimore & Ohio



Russian Government Type



Pennsylvania



Morrison Guard Rail Tie Plate

RAILS.**T Rails.**

12 to 150 pounds per yard.

All standard weights and sections for steam and electric railways, and light-weight Rails for Mining and Logging operations.

Heavy Rails for Crane Runways.**Special Rails for Third Rail Electric Systems.****Morrison Guard Rail.**

76 and 80 pounds per yard.

For further information regarding Rails, Rail Splices, Rail Braces, Guard Rails and Track Materials, see *Rail Catalogue*.

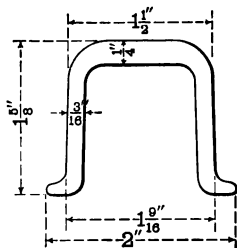
Extension or "Jumper" Rails.

For Track Extension of 12 and 16 pound Light T-Rails.

For 12-Lb. Rail.

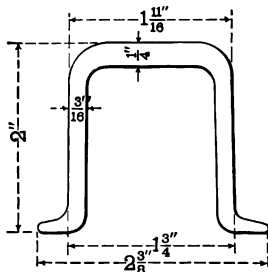
M-561.

3.06 Lbs. per Ft.

**For 16-Lb. Rail.**

M-562.

3.77 Lbs. per Ft.

**RATCHET SPRINGS.**

Made to special order.

REACH PLATE.

See "Flats with Two Round Corners."

REINFORCEMENT BARS.

Plain Round, Plain Square and Twisted Square Bars, Slick Patented Wedge Clamp Deformed Bars. In all sizes.

See "Concrete Reinforcement Bars" herein.

RIVET STEEL.

$\frac{1}{4}$ to $1\frac{1}{4}$ inches diameter rounds.

Qualities to meet all standard specifications for structural, ship and boiler work.

RIVETS.

$\frac{1}{2}$ to $1\frac{1}{4}$ inches diameter. Cone Heads, Counter-sunk Heads and Button Heads for Ships, Structural and Similar Work.

ROCKER PLATE STEEL.

$2 \times \frac{1}{4}$ to $6 \times \frac{3}{8}$ inches.

RODS.

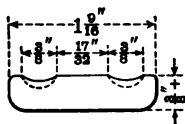
WIRE RODS of all sizes, Bessemer and Open Hearth. In coils.

CHAIN RODS, $\frac{1}{4}$ to $\frac{3}{4}$ inch diameter. In coils.

BRIDGE AND ROOF RODS.—See "Bolts and Nuts."

ROLLER STEEL.

$\frac{3}{8}$ to 2 inches diameter rounds, hot rolled or cold rolled, as specified, suitable for roller bearings, etc.

ROPE CLAMP.**M-285.**

1.90 Lbs. per Ft.

Deep points in grooves
occur every 5 1/4"**ROUNDS.****HAND.**

1 1/8 to 2 7/8 inches, all intermediate sizes.

2 7/8 to 3 3/16 inches, increasing by 1/16 inch.

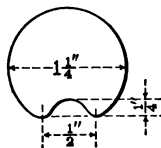
3 1/4 to 7 1/4 inches, increasing by 1/8 inch.

7 1/4 to 8 inches, increasing by 1/4 inch.

GUIDE.

1 5/8 to 2 1/8 inches, all intermediate sizes.

Round bars from 8 to 14 1/4 inches diameter in long or short lengths can be made in large tonnages of one size, by special arrangement.

ROUND (GROOVED).**M-458.**

3.94 Lbs. per Ft.

ROUND EDGE STEEL.

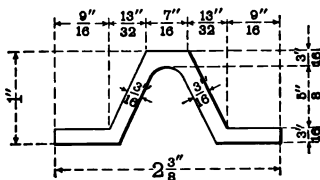
See "Flats."

ROUND CORNER STEEL.

See "Flats (With Two Round Corners)."

SAW MILL TRACK BAR.**M-284.**

2.16 Lbs. per Ft.



SASH STEEL (BARS).

See "Window Sash Steel."

SCREEN BARS.

See "Window-Screen Bars" and "Bevel Edge Steel," Section B.

SEPARATORS (CAST IRON).

For Beams of 3 to 24 inches depth.

Weights, 1.0 to 30.2 pounds each.

For full information regarding separators, see structural book entitled "CAMBRIA STEEL."

SHAFTING.

TURNED:

1½ to 7 inches diameter.

DRAWN:

½ to 1½ inches diameter.

See "Cold Rolled and Cold Drawn Steel."

SHAFT STEEL.

Special Section. See "Half Ovals."

SHEET BARS.

See "Bars."

SHEET PILING.

See "Piling."

SHIP STEEL.

See "Angles," "Beams," "Bulb Angles," "Channels," "Ship Channels," "Plates," "Z-Bar (Hatch Section)," etc.

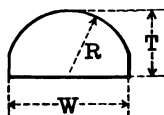
Also see Structural Handbook "CAMBRIA STEEL."

SCOOTER SPRINGS.

Made to special order.

SCRAP.

Steel Scrap of Various Kinds.

SHIM STEEL.

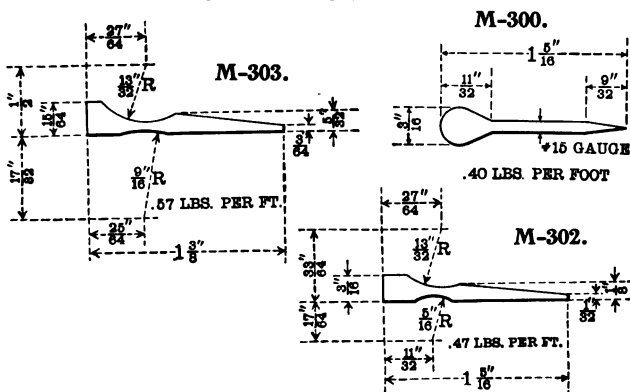
Section Number	W	T	R	Weight per Foot
	Inches	Inches	Inches	Pounds
M13	$\frac{1}{4}$	$\frac{3}{16}$	$\frac{1\frac{1}{8}}{128}$	.14
M14	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{5}{32}$	.15
M15	$\frac{5}{16}$	$\frac{7}{32}$	$\frac{11}{64}$	.20
M16	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{11}{64}$	.27
M17	$\frac{3}{8}$	$\frac{3}{16}$	.....	.20
M18	$\frac{7}{16}$	$\frac{5}{16}$	$\frac{11}{64}$	.40
M19	$\frac{5}{8}$	$\frac{1}{4}$	$\frac{11}{64}$	.39
M20	$\frac{5}{8}$	$\frac{11}{32}$	$\frac{11}{64}$	.59
M21	$\frac{3}{4}$	$\frac{7}{16}$	$\frac{21}{64}$	.91
M22	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{21}{64}$	1.21
M23	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{13}{32}$	1.22
M24	$1\frac{1}{8}$	$\frac{5}{8}$	$\frac{11}{64}$	1.93

SHOVEL STEEL.

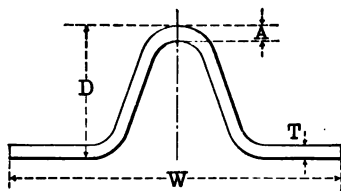
Furnished as plates or sheets, No. 16 gauge and heavier, any widths desired, of special Open Hearth stock. Strong, tough and sound. Used by the leading shovel makers.

SHOE PLATES.

Made to special order.

SICKLE STEEL.**SIDE STAKE STEEL.**

For Cars, Etc.



Section Number	W	T	D	A	Weight per Foot
	Inches	Inches	Inches	Inches	Pounds
L-2	7	3/16	2 3/4	3/8	7.0
L-2	7	1/4	2 13/16	7/16	8.7
L-2	7	5/8	2 15/16	9/16	12.0

Note the extra thickness at the apex which adds materially to the strength and stiffness of this special section.

SLABS.

6 x 2 to 52 x 15 inches.

Also see "Blooms" and "Billets."

SLEIGH SHOE STEEL.**CONVEX.****Regular Sizes.**

$$1\frac{1}{2} \times \frac{5}{16}$$

$$1\frac{1}{2} \times \frac{3}{8}$$

$$1\frac{3}{4} \times \frac{5}{16}$$

$$1\frac{3}{4} \times \frac{11}{32}$$

$$1\frac{3}{4} \times \frac{3}{8}$$

$$2\frac{1}{4} \times \frac{5}{16}$$

$$2\frac{1}{2} \times \frac{7}{16}$$

$$2\frac{1}{2} \times \frac{1}{2}$$

$$2\frac{5}{8} \times \frac{5}{32}$$

$$3 \times \frac{1}{2}$$

$$3 \times \frac{5}{8}$$

$$3 \times \frac{11}{16}$$

$$3 \times \frac{3}{4}$$

$$3\frac{1}{2} \times \frac{1}{2}$$

$$3\frac{1}{2} \times \frac{5}{8}$$

$$3\frac{1}{2} \times \frac{3}{4}$$

$$4 \times \frac{1}{2}$$

$$4 \times \frac{3}{4}$$

$$4 \times \frac{7}{8}$$

$$4 \times 1$$

Can arrange to furnish intermediate sizes upon application. See "Half Ovals."



SLEIGH SHOE STEEL.

(Continued)

CONCAVE.**Regular Sizes.**

$2 \times \frac{5}{16}$	$3\frac{1}{2} \times \frac{5}{16}$
$2 \times \frac{3}{8}$	$3\frac{1}{2} \times \frac{3}{8}$
$2 \times \frac{7}{16}$	$3\frac{1}{2} \times \frac{7}{16}$
$2 \times \frac{1}{2}$	$3\frac{1}{2} \times \frac{1}{2}$
	$3\frac{1}{2} \times \frac{9}{16}$
$2\frac{1}{2} \times \frac{5}{16}$	
$2\frac{1}{2} \times \frac{3}{8}$	$4 \times \frac{5}{16}$
$2\frac{1}{2} \times \frac{7}{16}$	$4 \times \frac{3}{8}$
$2\frac{1}{2} \times \frac{1}{2}$	$4 \times \frac{7}{16}$
	$4 \times \frac{1}{2}$
$3 \times \frac{5}{16}$	$4 \times \frac{9}{16}$
$3 \times \frac{3}{8}$	
$3 \times \frac{7}{16}$	
$3 \times \frac{1}{2}$	

Can arrange to furnish intermediate sizes upon application. See "Tire—Concave."

Flat Sleigh Shoe Steel, Round Edge and Square Edge of all sizes.

See "Flats."

SOFT STEEL.

Bars, Shapes and Plates for Welding, Forging, or any requirement.

Bars, plates and all standard shapes for structural work, ship, machine, car, locomotive construction, etc., etc.

SPIKES.

DOCK OR WHARF.

Lengths, 6 to 26 inches.

WIRE.

See "Nails (Wire)."

SPLICE BARS.

For Rails 12 to 150 pounds per yard.

PLAIN.

For Rails 12 to 40 pounds and 150 pounds per yard.

ANGLE.

For Rails 30 pounds to 100 pounds per yard.

SPECIAL.

Made to order, as may be arranged.

For further information regarding splice-bars for rails, see Cambria Steel Co.'s Rail and Splice catalogues.

SPOKE STEEL.

Tough bars adapted to be threaded and riveted.

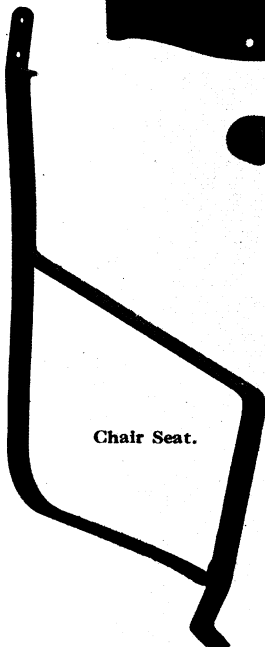
Made in all regular sizes of rounds and ovals, furnished in long bars or cut to length, as ordered.

SPECIAL STEEL SHAPES.

Approximate Size, $\frac{1}{8}$



Hinge.



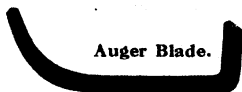
Chair Seat.



Car Forgings.



Truck Standard.



Auger Blade.

The above are a few examples of our small forged and bent steel shapes. We can make other special shaped steel articles of this class of products.

SPRING STEEL.

Spring steels of high carbons in rounds, flats, squares, concave flats and special sections made to all standard specifications, true to size and with smooth finish. Some special grades and sections are described below.

ENDURIA STEEL.

Bears the following label—black letters on lilac-colored paper:

Cambria Steel Co.	(TRADE MARK) ENDURIA (REG. U. S. PAT. OFF.)	Johnstown, Pa.
-------------------	--	----------------

This is a Spring steel used extensively for automobile and other work where the duty requires a steel that will stand up under severe service. Because of its peculiar composition, it can be hardened to a degree of stiffness which could not be obtained in good carbon spring steel without risk of being too brittle for safety.

RESILIA STEEL.

Bears the following label—black letters on light blue paper:

Cambria Steel Co.	(TRADE MARK) RESILIA (REG. U. S. PAT. OFF.)	Johnstown, Pa.
-------------------	--	----------------

The highest type of Spring steel. Of great resiliency without being brittle. This steel, hardened and tempered, will give the following physical results:

ELASTIC LIMIT	ULTIMATE STRENGTH
200,000 pounds	230,000 pounds
ELONGATION	REDUCTION
5%	20%

Resilia springs will not take a set under the heaviest loading. Especially recommended for the highest duty, where exceptional quality is a necessity.

SPRING STEEL.

(Continued)

Automobile Spring Steel.

Made in different special grades for automobile springs in regular sizes, as specified.

Baby Carriage Spring Steel.

$\frac{3}{8}$ inch to 1 inch x No. 7 to No. 14 gauge flats.
Also oval, beveled or other special shapes.

Carriage Spring Steel.

$1\frac{1}{4}$ inch x No. 6 gauge to 3 inches x No. 1 gauge flats.

$\frac{1}{4}$ inch to $1\frac{1}{4}$ inch diameter, rounds or squares.

For springs for buggies, carriages, wagons, etc.

Crucible Analysis Spring Steel.

Made in all regular sizes.

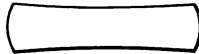
Used for high grade railroad springs, etc.

Railroad Spring Steel.

Flats $1\frac{1}{2}$ x $\frac{3}{8}$ to 6 x $\frac{1}{2}$ inch for elliptic springs.

Rounds and squares, $\frac{1}{4}$ inch to $1\frac{1}{2}$ inches for coil and special shaped springs.

Made to any regular specifications.

CONCAVE SPRING STEEL.

For carriage, wagon and automobile springs, flat bars are generally rolled slightly concave on each side as indicated on sketch above. Furnished in all sizes and to all standard specifications.

SPRING CLIP STEEL.

See "Clip Steel."

SQUARE BARS.

Regular— $\frac{3}{16}$ to $5\frac{1}{2}$ ins. Planished— $\frac{7}{32}$ to $2\frac{1}{2}$ ins.

SPRINGS.Approximate Size, $\frac{1}{8}$ **Buffer Spring.****Symington Spring.**
(Box Lid)**Motor Cycle
Seat Spring.****Coil Spring.****Coil Spring.**

A few forms of special springs for various uses are shown above. We can make any style of springs of this general character from any of our various grades of spring steel. For other springs, see Section B, herein.

STAPLES (Wire).

FENCE STAPLES—Annealed, Bright or Galvanized.

Our Standard Staples are made of No. 9 W. & M. gauge wire, which size will be furnished unless otherwise specified.

Lengths, $\frac{7}{8}$ to 2 inches. Packed 100 pounds to the keg.

POULTRY NETTING STAPLES—Galvanized. No. 14 W. & M. gauge.

Lengths, $\frac{3}{4}$ to 1 inch. Packed in 100-pound kegs; 50, 25 and 5-pound wooden boxes; and 10, 5, 1, $\frac{1}{2}$ and $\frac{1}{4}$ -pound paper packages.

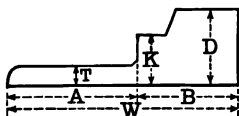
STRUCTURAL STEEL (Fitted).

Finished structural steel for buildings and bridges, including Beams, Beam Girders, Columns, Roof Trusses, Plate Girders, Riveted Truss Bridges, etc., fitted complete, ready for erection.

STRUCTURAL STEEL (Plain).

See "Angles," "Bars," "Beams," "Channels," "T-Bars," "Concrete Reinforcement Bars," "Piling," etc.

For full information regarding *Structural Steel*, see our structural book "CAMBRIA STEEL."

SWITCH POINT BAR STEEL.

Section Number	Size Number	W	A	B	D	K	T	Weight per Foot Pounds
		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	
M-278	1	$4\frac{1}{8}$	$2\frac{1}{4}$	$2\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{7}{8}$	$\frac{7}{16}$	14.3
M-279	2	$4\frac{7}{8}$	$2\frac{7}{8}$	$1\frac{3}{4}$	$1\frac{3}{8}$	1	$\frac{7}{16}$	11.5

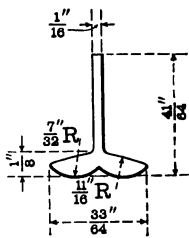
SUSPENSION SPRINGS—Made to order.

TAPERED FLATS.

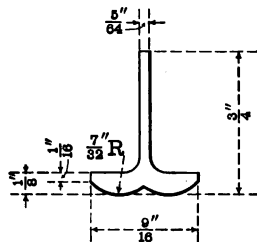
Made to pattern in any size. Also see "Bevel Edge Steel," Section B.

TAPERED RODS.

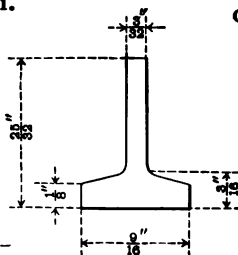
Round or Rectangular. All lengths and sizes.

TEES—SLED RUNNER.

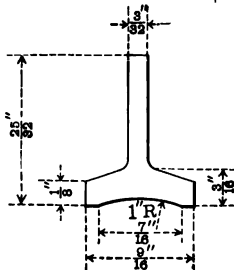
T-326.
Customer's No. 1.
.28 Lbs. per Ft.



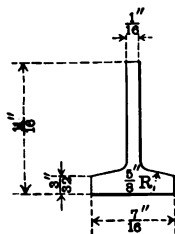
T-327.
Customer's No. 2.
.37 Lbs. per Ft.



T-221.
.50 Lbs. per Ft.



T-223.
Customer's No. 4 1/2.
.48 Lbs. per Ft.



T-225.
Customer's No. 1 1/2.
.32 Lbs. per Ft.

TEES—REGULAR.



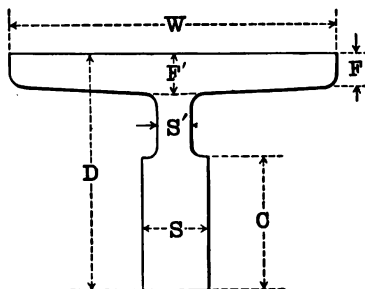
EQUAL LEGS.

Section Number	Size	Flange Thickness	Stem Thickness	Weight per Foot.
	Inches	Inches	Inches	Pounds
T-5	1 x 1	$\frac{1}{8}$ to $\frac{5}{16}$	$\frac{1}{8}$ to $\frac{5}{16}$	.89
T-181	$1\frac{1}{8}$ x $1\frac{1}{8}$	$\frac{3}{16}$ " $\frac{7}{16}$	$\frac{3}{16}$ " $\frac{7}{16}$	1.37
T-183	$1\frac{3}{8}$ x $1\frac{3}{8}$	$\frac{3}{16}$ " $\frac{1}{4}$	$\frac{3}{16}$ " $\frac{7}{16}$	1.51
T-187	$1\frac{1}{4}$ x $1\frac{1}{4}$	$\frac{3}{16}$ " $\frac{1}{4}$	$\frac{3}{16}$ " $\frac{7}{16}$	1.60
T-188	$1\frac{1}{4}$ x $1\frac{1}{4}$	$\frac{1}{8}$ " $\frac{7}{16}$	$\frac{1}{8}$ " $\frac{7}{16}$	1.70
T-191	$1\frac{1}{2}$ x $1\frac{1}{2}$	$\frac{3}{16}$ " $\frac{7}{16}$	$\frac{3}{16}$ " $\frac{7}{16}$	1.94
T-193	$1\frac{1}{2}$ x $1\frac{1}{2}$	$\frac{1}{4}$ " $\frac{9}{16}$	$\frac{1}{4}$ " $\frac{9}{16}$	2.47
T-194	$1\frac{3}{4}$ x $1\frac{3}{4}$	$\frac{1}{4}$ " $\frac{1}{8}$	$\frac{1}{4}$ " $\frac{5}{16}$	3.09
T- 37	2 x 2	$\frac{1}{4}$ " $\frac{5}{16}$	$\frac{1}{4}$ " $\frac{5}{16}$	3.56
T- 39	2 x 2	$\frac{5}{16}$ " $\frac{3}{8}$	$\frac{5}{16}$ " $\frac{3}{8}$	4.3
T- 41	$2\frac{1}{4}$ x $2\frac{1}{4}$	$\frac{1}{4}$ " $\frac{5}{16}$	$\frac{1}{4}$ " $\frac{5}{16}$	4.1
T- 42	$2\frac{1}{4}$ x $2\frac{1}{4}$	$\frac{5}{16}$ " $\frac{3}{8}$	$\frac{5}{16}$ " $\frac{3}{8}$	4.9
T- 47	$2\frac{1}{2}$ x $2\frac{1}{2}$	$\frac{1}{4}$ " $\frac{5}{16}$	$\frac{1}{4}$ " $\frac{5}{16}$	4.6
T- 49	$2\frac{1}{2}$ x $2\frac{1}{2}$	$\frac{5}{16}$ " $\frac{3}{8}$	$\frac{5}{16}$ " $\frac{3}{8}$	5.5

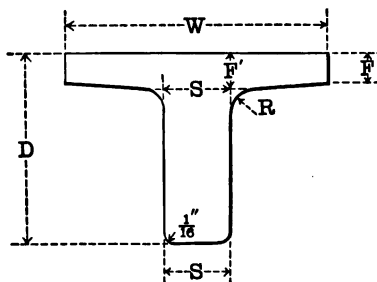
UNEQUAL LEGS.

T-16	$1\frac{1}{4}$ x $1\frac{1}{16}$	$\frac{3}{16}$ to $\frac{1}{4}$	$\frac{5}{16}$ to $\frac{7}{16}$	1.47
T-18	$1\frac{1}{4}$ x $1\frac{1}{8}$	$\frac{3}{16}$ " $\frac{7}{16}$	$\frac{3}{16}$ " $\frac{1}{4}$	1.55
T-20	$1\frac{1}{2}$ x $1\frac{1}{4}$	$\frac{1}{8}$ " $\frac{3}{16}$	$\frac{1}{8}$ " $\frac{5}{16}$	1.25
T-22	$2\frac{1}{2}$ x $1\frac{1}{4}$	$\frac{3}{16}$ " $\frac{7}{16}$	$\frac{1}{8}$ " $\frac{1}{8}$	2.87
T-56	$2\frac{1}{2}$ x 3	$\frac{3}{8}$ " $\frac{7}{16}$	$\frac{3}{8}$ " $\frac{1}{8}$	7.1
T-65	3 x $2\frac{1}{2}$	$\frac{3}{8}$ " $\frac{1}{16}$	$\frac{3}{8}$ " $\frac{1}{16}$	7.1

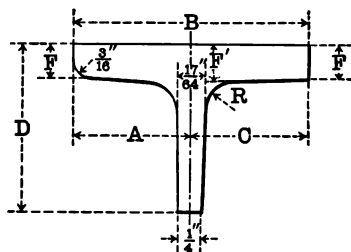
TEES—ELEVATOR.



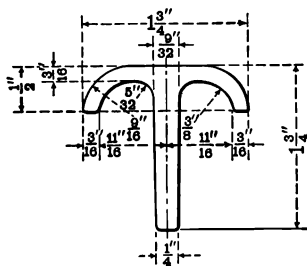
Section Number	W Inches	D Inches	C Inches	F Inches	F' Inches	S Inches	S' Inches	Wt. per Ft. Pounds
T-231	3½	2½	1 ⅜	⅝	⅞	¾	⅜	8.9
T-233	5⅞	3½	2⅞	¾	⅞	¾	⅜	16.5



Section Number	W Inches	D Inches	F Inches	F' Inches	S Inches	R Inches	Weight per Foot Pounds
T-215	2⅜	2	⅝	⅜	⅜	⅜	7.31
T-322	2⅜	2	⅝	⅜	⅜	⅜	7.50
T-198	3⅞	2⅞	⅝	⅜	⅜	⅜	10.10
T-219	4½	3½	⅝	⅜	⅜	⅜	14.93

TEES—SPECIAL SHAPES.

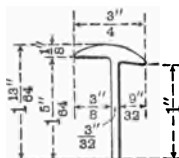
Section Number	B Inches	D Inches	A Inches	C Inches	F Inches	F' Inches	R Inches	Weight per Ft. Pounds
T-201	2 1/4	1 5/8	1	1 1/4	1/8	1/8	3/8	3.43
"	2 1/4	1 1/8	1	1 1/4	1/8	1/8	3/8	3.91
T-205	2 1/2	1 3/8	1	1 1/2	1/8	1/8	3/8	4.35
"	2 1/2	1 1/2	1	1 1/2	1/8	1/8	3/8	4.89
T-209	2 1/2	1 1/4	1 1/4	1 1/4	1/8	1/8	3/8	4.31

**T-328.****Skylight Section.**

2.72 Lbs. per Ft.

W-3.**Automobile Body Moulding.**

.63 Lbs. per Ft.



TIES (STEEL).

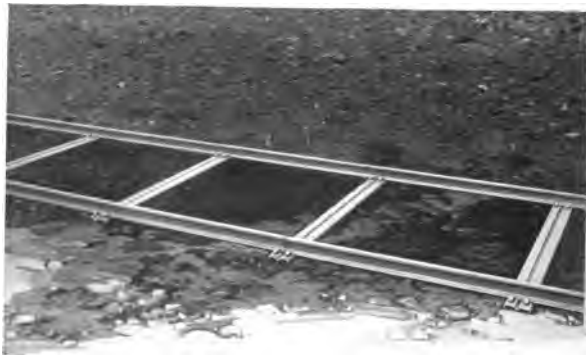
**Slick Metal Cross Ties for Mine and Industrial Railroads
Gauges 30 to 52 ins.; For Rails 12 to 60 Lbs. per Yard,
See Special Catalogue, "Slick Mine Ties."**

The Slick Steel Mine Tie combines light weight with sufficient strength, and has no loose parts. No essential portion can be mislaid or lacking. The rail fastenings, flanged buttons, clamp the rail flange securely to the tie at the proper gauge.

The ease of assembling track, the saving of time and labor, cannot be too strongly emphasized. The track requires no manipulation for the introduction of fastenings or for adjustment of gauge.

These steel ties weigh less than wooden, take up about one-sixth as much room, and are more easily transported and stored. Miners prefer them as, with fastenings always ready, they are the more easily and quickly installed, give greater clearance, and the work is greatly facilitated.

The Slick Tie is practically indestructible, and considering its superior lightness, strength, convenience and simplicity will prove of decided economy to the user.

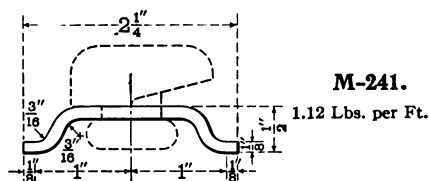
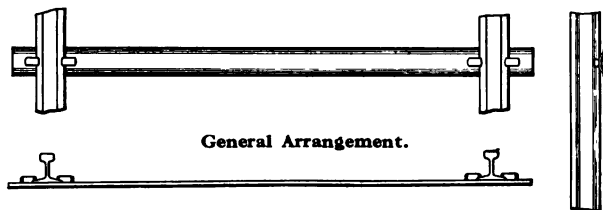


Slick No. 2 Medium Ties, with 16-pound Rails, showing Rail Joint made without Splice Bars.

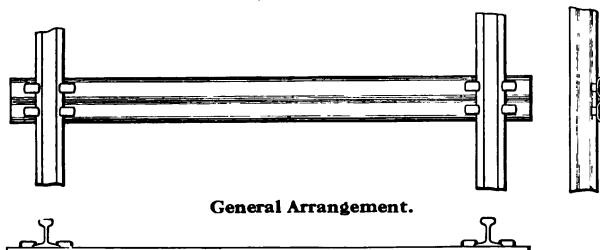
TIES—STEEL.—(Continued)

Slick steel ties are made in three different sections and weights per foot.

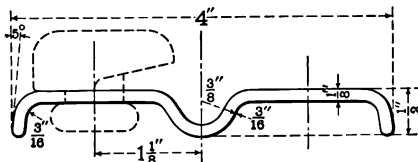
Slick No. 1 Light Tie for Rails 12 to 20 Pounds per Yard.

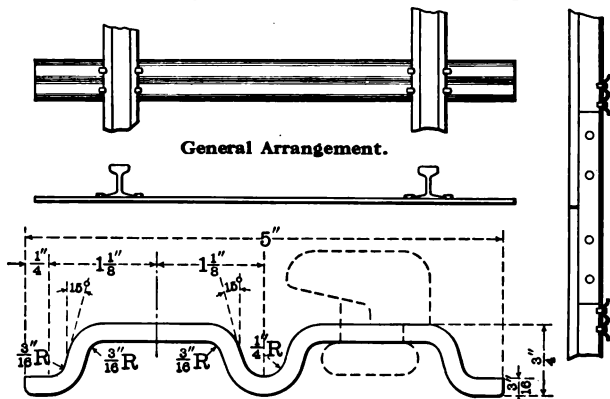


Slick No. 2 Medium Tie for Rails 16 to 45 Pounds per Yard.



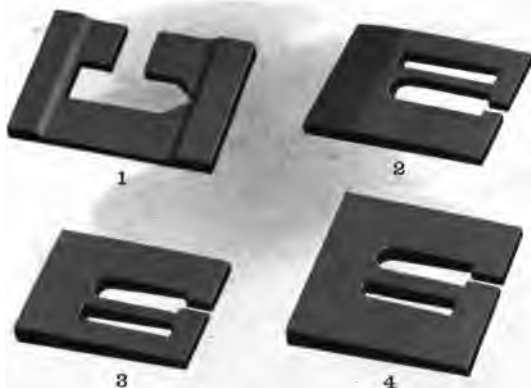
M-240.
2.16 Lbs. per Ft.



TIES—STEEL.—(Continued)**Slick No. 3—Heavy Tie for Rails 40 to 60 Pounds per Yard.****M-242.** Weight, 4.00 Pounds per Foot.

These ties are made and can be promptly furnished in various sizes to apply to all gauges from 30 to 54 inches. Send for special catalogue.

**Mine Track, showing Slick No. 3 Heavy Ties, with 60-pound Rails.**

TIE-BUCKLES.Approximate Size $\frac{1}{2}$ 

The above illustrations show the principal styles of tie buckles which we make for use in connection with flat steel bands for confining bales of cotton, fibre, rags, etc.

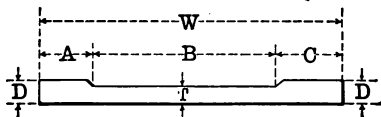
These buckles are finished complete, ready for use, the principal dimensions being shown in the table below.

Other styles can be made, if ordered in sufficient quantities.

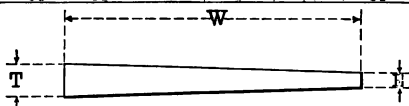
Number	Length	Width	Maximum Thickness	Minimum Thickness	Approximate Weight
	Inches	Inches	Inches	Inches	Pounds
1	$2\frac{1}{8}$	$1\frac{5}{8}$	$\frac{5}{16}$	$\frac{3}{16}$	0.100
2	2	$1\frac{1}{2}$	$\frac{1}{8}$	$\frac{7}{16}$	0.091
3	2	$1\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	0.125
4	$2\frac{1}{16}$	$2\frac{1}{16}$	$\frac{1}{4}$	$\frac{1}{8}$	0.187

TIN-BARS.

See "Bars."

TIE-BUCKLE BARS.

Section Number	W	A	B	C	D	T	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Inches	Pounds
M-374	2 $\frac{1}{8}$	$\frac{3}{8}$	1 $\frac{9}{16}$	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{1}{8}$	.99
M-462	2 $\frac{9}{16}$	$\frac{1}{2}$	1 $\frac{7}{16}$	$\frac{1}{2}$	$\frac{3}{16}$	$\frac{3}{16}$	1.15



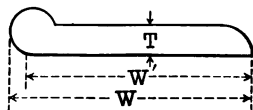
Also see "Bevel Edge Steel," Section B.

Section Number	W	T	E	Weight per Foot
	Inches	Inches	Inches	Pounds
M-166	2 $\frac{3}{4}$	$\frac{1}{4}$	$\frac{3}{4}$	1.14
M-167	2 $\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	1.32

Any other pattern made to special order.

TIE PLATES.

See "Railroad Tie Plates."

TIRE SHAPES FOR SOLID RUBBER TIRE.

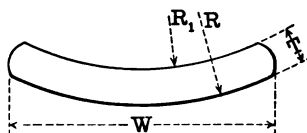
Section Number	W	W'	T	Weight per Foot
	Inches	Inches	Inches	Pounds
C-460	2 $\frac{9}{16}$	2 $\frac{3}{8}$	$\frac{5}{16}$	2.81
C-461	3	2 $\frac{1}{4}$	$\frac{3}{8}$	3.96

TIRE CHANNELS.

For Solid Rubber and Cushion Tires.

See "Channels" for solid rubber tire and for cushion tire.

TIRE (CONCAVE).



Section No.	W	T	R	R'	Weight per Foot
	Inches	Inches	Inches	Inches	Pounds
M-57	2	$\frac{3}{16}$	$1\frac{3}{4}$	$1\frac{9}{16}$	1.32
M-58	2	$\frac{5}{16}$	3	$2\frac{5}{8}$	2.06
M-59	2	$\frac{3}{8}$	3	$2\frac{5}{8}$	2.48
M-60	2	$\frac{7}{16}$	3	$2\frac{5}{8}$	2.90
M-61	2	$\frac{1}{2}$	3	$2\frac{5}{8}$	3.31
M-62	$2\frac{1}{4}$	$\frac{3}{16}$	$1\frac{3}{4}$	$1\frac{9}{16}$	1.50
M-63	$2\frac{1}{4}$	$\frac{5}{16}$	$1\frac{3}{4}$	$1\frac{9}{16}$	2.25
M-64	$2\frac{1}{2}$	$\frac{5}{16}$	3	$2\frac{5}{8}$	2.60
M-65	$2\frac{1}{2}$	$\frac{3}{8}$	3	$2\frac{5}{8}$	3.20
M-66	$2\frac{3}{4}$	$\frac{7}{16}$	3	$2\frac{5}{8}$	3.70
M-67	$2\frac{3}{4}$	$\frac{1}{2}$	3	$2\frac{5}{8}$	4.20
M-68	3	$\frac{1}{4}$	$2\frac{3}{16}$	$1\frac{15}{16}$	2.78
M-69	3	$\frac{1}{16}$	3	$2\frac{5}{8}$	3.10
M-70	3	$\frac{3}{8}$	3	$2\frac{5}{8}$	3.80
M-71	3	$\frac{7}{16}$	3	$2\frac{5}{8}$	4.50
M-72	3	$\frac{1}{2}$	3	$2\frac{5}{8}$	5.10
M-73	$3\frac{1}{2}$	$\frac{5}{16}$	3	$2\frac{5}{8}$	3.70
M-74	$3\frac{1}{2}$	$\frac{3}{8}$	3	$2\frac{5}{8}$	4.50
M-75	$3\frac{1}{2}$	$\frac{7}{16}$	3	$2\frac{5}{8}$	5.30
M-76	$3\frac{3}{4}$	$\frac{1}{2}$	3	$2\frac{5}{8}$	6.10
M-77	$3\frac{3}{4}$	$\frac{9}{16}$	3	$2\frac{5}{8}$	6.90
M-78	4	$\frac{5}{16}$	3	$2\frac{5}{8}$	4.20
M-79	4	$\frac{3}{8}$	3	$2\frac{5}{8}$	5.20
M-80	4	$\frac{7}{16}$	3	$2\frac{5}{8}$	6.20
M-81	4	$\frac{1}{2}$	3	$2\frac{5}{8}$	7.20
M-82	4	$\frac{9}{16}$	3	$2\frac{5}{8}$	8.20

Concave tire is used principally for rims of metal wheels, with round or oval spokes, for farm wagons, agricultural implements, etc. The concavo-convex form gives additional strength and stiffness to the rim.

TIRE STEEL.

"Cambria" Tire is rolled from solid ingots of special steel, made for this purpose only.

Careful rolling, most rigid inspection, absolute straightness, accuracy of size, perfect welding and wearing qualities, and uniformity of temper have gained for it the highest reputation; in fact, it is the best Tire made.

The "Cambria" brand of Tire bears the following label, *black* letters on *green* paper:

Cambria Steel Tire	CAMBRIA STEEL CO. GAUTIER DEPARTMENT	Johnstown, Pa.
--------------------	--	----------------



TIRE STEEL.

(Continued)

Round or square edge, standard lengths $12\frac{1}{2}$ and $13\frac{1}{2}$ feet. Cut to specific lengths without extra charge.

SIZES OF "CAMBRIA STEEL TIRE" IN STOCK.

In order to accommodate the trade and insure immediate shipments, the following sizes of Cambria Tire will be carried in stock, put up in sets of 4 bars, cut $12\frac{1}{2}$ and $13\frac{1}{2}$ feet in length.

Special lengths and sizes will be rolled to order as heretofore.

SIZES OF TIRE IN STOCK.

$\frac{3}{4}$, $\frac{7}{8}$, 1 x $\frac{3}{16}$ inches.

$\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$ x $\frac{1}{4}$ "

1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$ x $\frac{5}{16}$ "

$1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$ x $\frac{3}{8}$ "

$1\frac{3}{8}$, $1\frac{1}{2}$ x $\frac{7}{16}$ "

$1\frac{3}{8}$, $1\frac{1}{2}$, $1\frac{5}{8}$, $1\frac{3}{4}$ x $\frac{1}{2}$ "

For special shaped tire for agricultural implements, wheels, etc., see "Tire-Concave" herein, and "Channels-Tire," Section B.

TIRE CHANNELS.

For Solid Rubber and Cushion Tire, see Channels, etc.

TOE CALKS.

City Pattern (blunt) Calks.

Special City Pattern Calks.

Long Special City Pattern Calks.

Sharp Pattern Calks.

Long Sharp Pattern Calks.

Country Pattern (medium blunt) Calks.

Long Country Pattern Calks.

All put up in boxes, 25 pounds in each box.

These Toe Calks are all made from the well-known **"GAUTIER"** Toe Calk Steel, and special attention is paid to the quality as well as the workmanship.



TOE CALKS.

Approximate Size, $\frac{1}{4}$

Country Pattern.



Sharp Pattern.



City Pattern.

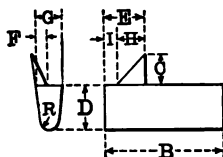


Special City Pattern.



TOE CALKS.

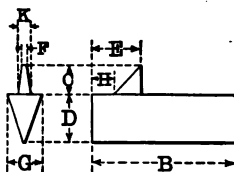
(Continued)



Country Pattern.

Section No.	Size No.	B	C	D	E	F	G	H	I	R
		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
M-345	0	1 $\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{3}{32}$
M-346	1	1 $\frac{1}{2}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{3}{32}$
M-347	2	1 $\frac{3}{4}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{3}{32}$
M-348	3	2	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{3}{32}$
M-349	4	2 $\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{3}{32}$
M-350	5	2 $\frac{1}{2}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{3}{32}$
M-350	6	2 $\frac{3}{4}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{3}{32}$
M-351	7	3	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{3}{32}$

Long Country Pattern—Same dimensions as Country Pattern, except "B," which is $\frac{1}{4}$ inch greater for all sizes.



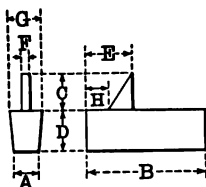
Sharp Pattern.

Section No.	Size No.	B	C	D	E	F	G	H	K
		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
M-338	0	1 $\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$
M-339	1	1 $\frac{3}{4}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$
M-340	2	2	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$
M-341	3	2 $\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$
M-342	4	2 $\frac{1}{2}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$
M-343	5	2 $\frac{3}{4}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$
M-344	6	3	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$
M-345	7	3 $\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$

Long Sharp Pattern—Same dimensions as Sharp Pattern, except "B," which is $\frac{1}{4}$ inch greater for all sizes.

TOE CALKS.

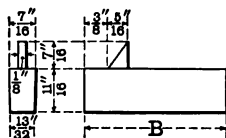
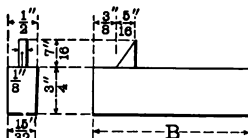
(Continued.)

**City Pattern.**

Section Number	Size Number	A	B	C	D	E	F	G	H
		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
M-352	0	$\frac{9}{32}$	$1\frac{1}{4}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{9}{16}$	$\frac{3}{32}$	$\frac{3}{8}$	$\frac{5}{16}$
M-353	1	$\frac{9}{32}$	$1\frac{1}{2}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{9}{16}$	$\frac{3}{32}$	$\frac{3}{8}$	$\frac{5}{16}$
M-354	2	$\frac{9}{32}$	$1\frac{3}{4}$	$\frac{7}{16}$	$\frac{9}{16}$	$\frac{11}{16}$	$\frac{3}{32}$	$\frac{7}{16}$	$\frac{3}{8}$
M-355	3	$\frac{1}{2}$	2	$\frac{7}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{8}$
M-356	4	$\frac{1}{2}$	$2\frac{1}{4}$	$\frac{7}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{8}$
M-357	5	$\frac{1}{2}$	$2\frac{1}{2}$	$\frac{7}{16}$	$\frac{13}{16}$	$\frac{11}{16}$	$\frac{1}{8}$	$\frac{9}{16}$	$\frac{3}{8}$
M-358	6	$\frac{1}{2}$	$2\frac{3}{4}$	$\frac{7}{16}$	$\frac{7}{8}$	$\frac{11}{16}$	$\frac{3}{32}$	$\frac{9}{16}$	$\frac{1}{2}$
M-359	7	$\frac{1}{2}$	3	$\frac{7}{16}$	$\frac{15}{16}$	$\frac{11}{16}$	$\frac{3}{32}$	$\frac{19}{32}$	$\frac{5}{8}$

SPECIAL CITY PATTERN—Same dimensions as City Pattern, except "B," which is $\frac{1}{4}$ inch greater for all sizes.

LONG SPECIAL CITY PATTERN—Same dimensions as City Pattern, except "B," which is $\frac{1}{4}$ inch greater for all sizes.

SPECIAL TOE CALKS.**M-528—No. 4 F.D.****M-536—No. 5 F.D.****Patterns****M-528
B****M-536
B**

"Regular".....
 "Long Regular".....
 "Extra Long Regular".....
 "Double Extra Long Regular".....

$2\frac{1}{4}$ ins.
 $2\frac{1}{2}$ "
 $2\frac{3}{4}$ "
 3 "

$2\frac{1}{4}$ ins.
 $2\frac{3}{4}$ "
 3 "
 $3\frac{1}{4}$ "

TOE CALK STEEL.

Welds freely and hardens to any degree.
Put up in 50 and 100 lb. bundles.



Sample of our Toe Calk Steel, showing one end bent over and flattened down cold—a piece of iron solidly welded to the steel with the use of sand only—and the other end hammered to an edge, and then hardened sufficiently to best withstand the conditions of service. Similar samples can be made by any blacksmith from our Toe Calk Steel or seen at our works.

All our Toe Calk Steel bears the following label on yellow paper in black letters:



Sizes of Cambria Toe Calk Steel, in bars:

Style	Width, Inches	Thickness, Inches
Square Edge	$\frac{1}{4}$ to $\frac{7}{8}$	$\frac{3}{16}$ to $\frac{9}{16}$
" "	$\frac{1}{4}$ " $\frac{1}{2}$	$\frac{3}{16}$ " $\frac{3}{8}$
" "	$\frac{1}{2}$ " $\frac{1}{2}$	$\frac{3}{16}$ " $\frac{7}{8}$
Round Edge	$\frac{1}{4}$ " $\frac{1}{2}$	$\frac{3}{16}$ " $\frac{9}{16}$
" "	$\frac{1}{2}$ " $\frac{1}{2}$	$\frac{3}{16}$ " $\frac{1}{2}$
" "	$\frac{1}{2}$ " $\frac{1}{4}$	$\frac{3}{16}$ " $\frac{1}{2}$

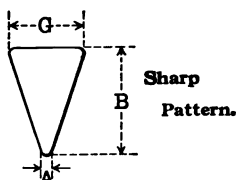
Any other or intermediate sizes of the Toe Calk Steel can be furnished, if desired.

Also, square Toe Calk Steel $\frac{3}{16}$ to 1 inch.

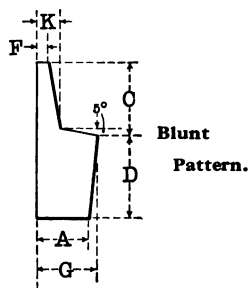
In order to accommodate the trade and insure prompt shipments, we carry in stock all regular sizes of Toe Calk Steel, in 100 lb. bundles.

TOE CALK STEEL.

(Continued)



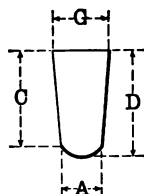
Section Number	Size Number	A	B	G	Weight per Foot Pounds
		Inches	Inches	Inches	
M-319	0	$\frac{1}{16}$	$\frac{5}{16}$	$\frac{25}{64}$	.43
M-320	1	$\frac{1}{16}$	$\frac{7}{16}$	$\frac{13}{32}$	.50
M-321	2	$\frac{3}{32}$	$\frac{1}{2}$	$\frac{7}{16}$	.65
M-322	3	$\frac{3}{32}$	$\frac{13}{16}$	$\frac{1}{2}$	.79
M-323	4	$\frac{3}{32}$	$\frac{15}{16}$	$\frac{1}{2}$	1.01
M-324	5	$\frac{3}{32}$	1	$\frac{13}{32}$	1.16
M-325	6	$\frac{3}{32}$	$1\frac{1}{16}$	$\frac{5}{8}$	1.27



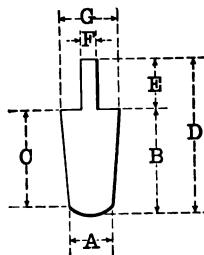
Section Number	Size Number	A	C	D	F	G	K	Weight per Ft. Lbs.
		Inches	Inches	Inches	Inches	Inches	Inches	
M-326	0	$\frac{9}{32}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{16}$	$\frac{5}{16}$	$\frac{1}{8}$	.57
M-327	1	$\frac{3}{16}$	$\frac{3}{8}$	$\frac{7}{8}$	$\frac{1}{16}$	$\frac{3}{8}$	$\frac{1}{8}$	.72
M-328	2	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{32}$	$\frac{7}{16}$	$\frac{1}{8}$	.93
M-329	3	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{5}{8}$	$\frac{3}{32}$	$\frac{1}{2}$	$\frac{9}{64}$	1.10
M-330	4	$\frac{7}{16}$	$\frac{3}{8}$	$\frac{11}{16}$	$\frac{3}{32}$	$\frac{1}{2}$	$\frac{9}{64}$	1.30
M-331	5	$\frac{1}{2}$	$\frac{1}{8}$	$\frac{3}{4}$	$\frac{3}{32}$	$\frac{9}{16}$	$\frac{3}{32}$	1.58
M-332	6	$\frac{1}{2}$	$\frac{1}{8}$	$\frac{3}{4}$	$\frac{3}{32}$	$\frac{5}{8}$	$\frac{11}{64}$	1.91
M-333	7	$\frac{1}{2}$	$\frac{1}{8}$	$\frac{3}{4}$	$\frac{3}{32}$	$\frac{5}{8}$	$\frac{11}{64}$	1.91

TOE CALK STEEL.

(Continued)

Country
Pattern.

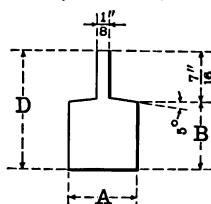
Section Number	Size Number	A	B	C	G	Weight per Foot
		Inches	Inches	Inches	Inches	Pounds
M-312	0	$\frac{3}{16}$	$\frac{15}{32}$	$\frac{27}{64}$	$\frac{9}{32}$	.37
M-313	1	$\frac{1}{4}$	$\frac{17}{32}$	$\frac{29}{64}$	$\frac{5}{16}$	.47
M-314	2	$\frac{1}{4}$	$\frac{19}{32}$	$\frac{31}{64}$	$\frac{11}{32}$	.63
M-315	3	$\frac{9}{32}$	$\frac{3}{4}$	$\frac{43}{64}$	$\frac{3}{8}$	.81
M-316	4	$\frac{9}{32}$	$\frac{13}{16}$	$\frac{45}{64}$	$\frac{7}{16}$	.97
M-317	5	$\frac{5}{16}$	$\frac{7}{8}$	$\frac{47}{64}$	$\frac{7}{16}$	1.06
M-318	6	$\frac{5}{8}$	$\frac{15}{8}$	$\frac{63}{64}$	$\frac{1}{2}$	1.35

Country
Pattern.
Center Nib.

Section Number	Size Number	A	B	C	D	E	F	G	Weight per Ft.
		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Lbs.
M-487	0	$\frac{3}{16}$	$\frac{15}{32}$	$\frac{27}{64}$	$\frac{27}{64}$	$\frac{3}{8}$	$\frac{3}{32}$	$\frac{9}{32}$	.49
M-488	1	$\frac{1}{4}$	$\frac{17}{32}$	$\frac{29}{64}$	$\frac{29}{64}$	$\frac{3}{8}$	$\frac{3}{32}$	$\frac{5}{16}$	.59
M-489	2	$\frac{1}{4}$	$\frac{19}{32}$	$\frac{31}{64}$	$\frac{19}{32}$	$\frac{13}{16}$	$\frac{1}{8}$	$\frac{11}{16}$	.80
M-490	3	$\frac{9}{32}$	$\frac{3}{4}$	$\frac{43}{64}$	$\frac{13}{16}$	$\frac{3}{2}$	$\frac{1}{8}$	$\frac{13}{16}$	.98
M-491	4	$\frac{9}{32}$	$\frac{13}{16}$	$\frac{45}{64}$	$\frac{14}{16}$	$\frac{7}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	1.14
M-492	5	$\frac{5}{16}$	$\frac{7}{8}$	$\frac{47}{64}$	$\frac{15}{16}$	$\frac{7}{16}$	$\frac{3}{32}$	$\frac{15}{16}$	1.34
M-493	6	$\frac{5}{8}$	$\frac{15}{8}$	$\frac{63}{64}$	$\frac{15}{8}$	$\frac{7}{16}$	$\frac{5}{32}$	$\frac{1}{2}$	1.58

TOE CALK STEEL.

(Continued)



**Blunt
Pattern.
Center Nib.**

Section Number	Size Number	A	B	D	Weight per Foot
		Inches	Inches	Inches	Pounds
M-333	1	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{13}{16}$	.82
M-334	2	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{13}{16}$	1.03
M-335	3	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{15}{16}$	1.25
M-336	4	$\frac{5}{8}$	$\frac{3}{8}$	$1 \frac{1}{8}$	1.51
M-337	5	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{13}{16}$	1.46

TOP GUARD ANGLES.

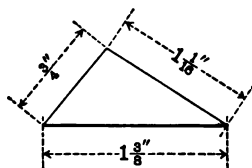
See "Bulb Angles."

TRACK BOLTS. $\frac{1}{2}$ to $1 \frac{1}{8}$ inch diameter, any lengths.

Various Patterns—Cut or rolled thread.

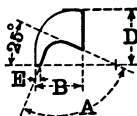
TRIANGLE BAR STEEL.

(Grate Bar.)

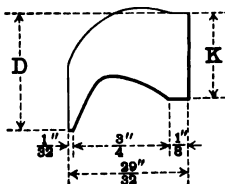
**M-305.**

1.35 Lbs. per Foot.

TURBINE FILLER STEEL.



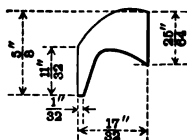
Section Number	Customer's Number	B	D	E	A	Weight per Foot
		Inches	Inches	Inches	Degrees	Pounds
M-243	15 & 16-C	$\frac{17}{32}$	$\frac{19}{32}$	$\frac{1}{32}$	90	.17
M-244	3, 4 & 13-A	$\frac{15}{32}$	$\frac{27}{32}$	$\frac{1}{32}$	86	.31
M-245	20 & 21-B	$\frac{17}{32}$	$\frac{31}{32}$	$\frac{3}{32}$	86	.44



Section Number	Customer's Number	D	K	Weight per Foot
		Inches	Inches	Pounds
M-248	243 & 244-E	$\frac{31}{64}$	$\frac{11}{32}$	1.85
M-249	245 & 246-F	$1\frac{1}{64}$	$\frac{11}{32}$	1.88

M-246.

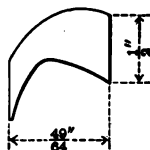
No. 247G.



.65 Lbs. per Foot.

M-247.

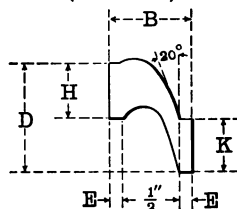
No. 25.



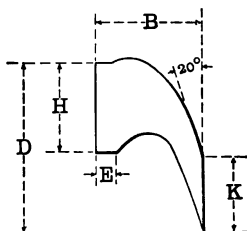
1.00 Lbs. per Foot.

TURBINE FILLER STEEL.

(Continued)



Section Number	Customer's Number	B	D	E	H	K	Weight per Foot
		Inches	Inches	Inches	Inches	Inches	Pounds
M-250	521-H	$\frac{7}{16}$	.495	$\frac{3}{32}$	.276	.243	.35
M-251	543-I	$\frac{1}{8}$	.737	$\frac{3}{32}$	.392	.359	.64
M-252	563-J	$\frac{3}{4}$	$\frac{3}{16}$	$\frac{1}{8}$	$\frac{1}{2}$	.462	1.10

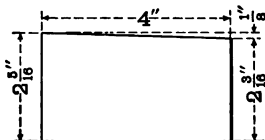


Section Number	Customer's Number	B	D	H	K	E	Weight per Foot
		Inches	Inches	Inches	Inches	Inches	Pounds
M-253	583-K	$\frac{15}{16}$	$1\frac{1}{2}$	$\frac{13}{16}$	$\frac{11}{16}$	$\frac{11}{16}$	2.22
M-254	603-L	$1\frac{1}{4}$	$1\frac{3}{4}$	$1\frac{1}{2}$	$\frac{7}{8}$	$\frac{13}{16}$	3.64
M-255	622	$1\frac{9}{16}$	1.942	.911	.638	$\frac{1}{8}$	3.91
M-256	623	$1\frac{9}{16}$	2.274	1.243	.970	$\frac{1}{8}$	5.64
M-257	642	$1\frac{3}{4}$	2.325	1.106	.778	$\frac{1}{8}$	5.34
M-258	643	$1\frac{13}{16}$	2.739	1.520	1.192	$\frac{1}{8}$	7.70

TWISTED BARS.

Twisted Square Bars for Concrete Reinforcement. All sizes.

See "Concrete Reinforcement Bars."

TRUCK BOLSTER SIDE BEARING BAR.**M-518.**

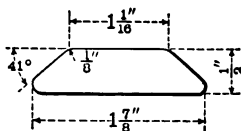
30.6 Lbs. per Ft.

VEHICLE STEEL.

See "Dash Channels," "Clip Steel," "Crescents,"
"Spring Steel," "Tire Steel," Etc.

WAGON BOX STEEL.

See "Bevel Edge Steel," Section B.

WASHER BAR.**100%****M-459.**

2.70 Lbs. per Ft.

WEDGE STEEL.

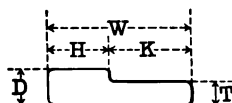
Flats—Sizes 1 to $2\frac{1}{2}$ x $\frac{3}{4}$ to $1\frac{1}{4}$ inches.

This is generally soft steel adapted for making
wedges for splitting wood, etc.

WASHERS—PLATE.**Standard Sizes.**

Diameter	Size of Hole	Gauge Thickness	Size of Bolt	Average Number
Inches	Inches	Number	Inches	in 100 pounds
$\frac{9}{16}$	$\frac{1}{4}$	18 ($\frac{3}{8}$ ")	$\frac{3}{16}$	39400
$\frac{3}{4}$	$\frac{1}{8}$	16 ($\frac{1}{8}$ ")	$\frac{1}{4}$	15600
$\frac{7}{8}$	$\frac{3}{8}$	16	$\frac{1}{8}$	11250
1	$\frac{1}{2}$	14 ($\frac{3}{4}$ ")	$\frac{3}{8}$	6800
$1\frac{1}{4}$	$\frac{3}{4}$	14	$\frac{1}{2}$	4300
$1\frac{3}{8}$	$\frac{1}{2}$	12 ($\frac{7}{8}$ ")	$\frac{5}{8}$	2600
$1\frac{1}{2}$	$\frac{5}{8}$	12	$\frac{3}{4}$	2250
$1\frac{3}{4}$	$\frac{1}{2}$	10 (1 ")	$\frac{1}{2}$	1300
2	$\frac{3}{4}$	10	$\frac{3}{8}$	1010
$2\frac{1}{4}$	$\frac{1}{2}$	9 ($\frac{3}{4}$ ")	$\frac{1}{2}$	860
$2\frac{3}{4}$	$1\frac{1}{8}$	9	1	625
$2\frac{1}{2}$	$1\frac{1}{4}$	9	$1\frac{1}{8}$	520
3	$1\frac{3}{8}$	9	$1\frac{1}{4}$	400
$3\frac{1}{4}$	$1\frac{1}{2}$	8 ($1\frac{1}{4}$ ")	$1\frac{3}{8}$	300
$3\frac{1}{2}$	$1\frac{3}{4}$	8	$1\frac{1}{2}$	280
$3\frac{3}{4}$	$1\frac{1}{2}$	8	$1\frac{3}{4}$	240
4	1	8	$1\frac{1}{2}$	215
$4\frac{1}{4}$	$2\frac{1}{8}$	8	$1\frac{7}{8}$	190
$4\frac{3}{4}$	$2\frac{1}{4}$	8	2	175

We also make Washers to special requirements, up to 6 inches diameter of various thicknesses.

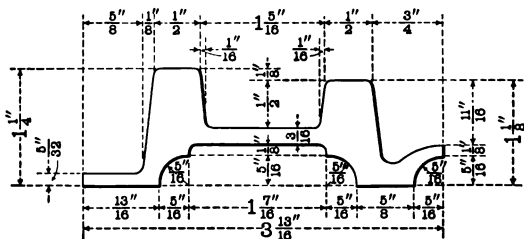
WINDOW SCREEN BARS.

Section Number	W	H	K	D	T	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Pounds
M-389	$\frac{3}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{16}$	$\frac{1}{8}$	.32
M-393	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	.49
M-390	$\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	.38
M-391	1	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	.62
M-392	1	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	.73

WINDOW SASH STEEL.

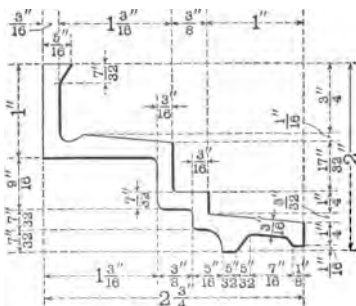
M-505—" Browne " A.

5.60 Lbs. per Ft.



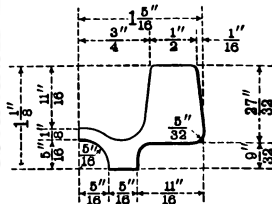
M-506—" Browne " B.

3.15 Lbs. per Ft.



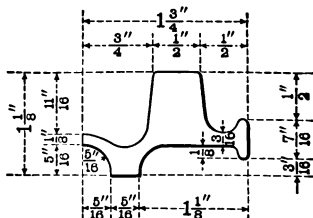
M-507—" Browne " C.

2.30 Lbs. per Ft.



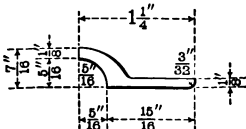
M-509—" Browne " E.

2.80 Lbs. per Ft.

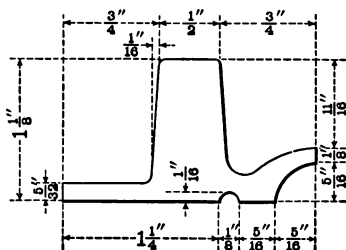


M-508—" Browne " D.

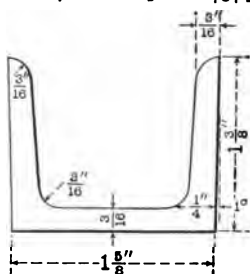
.60 Lbs. per Ft.



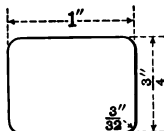
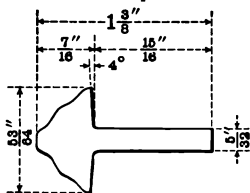
WINDOW SASH STEEL.

**M-510—"Browne" F.**

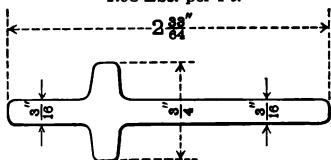
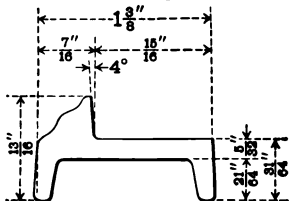
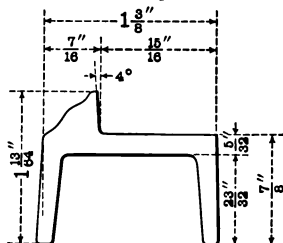
3.30 Lbs. per Ft.

**M-511.
"Browne" G.**

2.80 Lbs. per Ft.

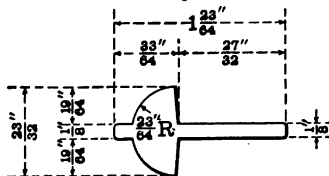
**M-514.
"Browne" F.S.**
2.54 Lbs. per Ft.**M-268—"Lupton" No. 100.**
1.29 Lbs. per Ft.**M-270—"Lupton" No. 102.**

1.98 Lbs. per Ft.

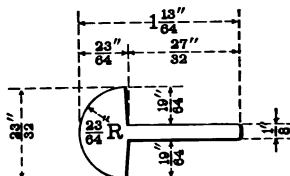
**M-269—"Lupton" No. 101.**
1.37 Lbs. per Ft.**M-271—"Lupton" No. 104.**
1.74 Lbs. per Ft.

WINDOW SASH STEEL.

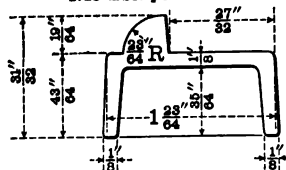
M-272—Bally No. 10.
1.13 Lbs. per Ft.



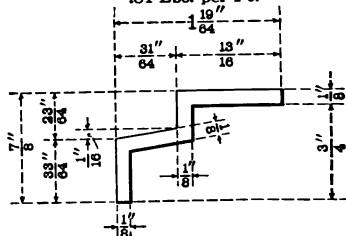
M-273—Bally No. 11.
1.06 Lbs. per Ft.



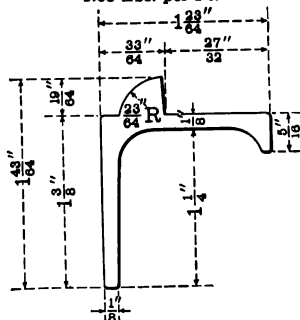
M-274—Bally No. 12.
1.43 Lbs. per Ft.



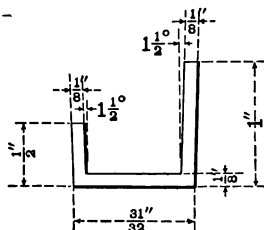
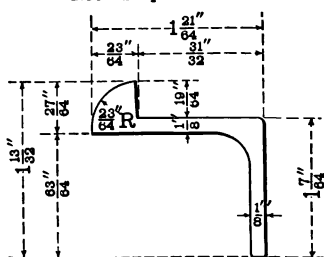
M-277—Bally No. 17.
.84 Lbs. per Ft.



M-275—Bally No. 15.
1.63 Lbs. per Ft.

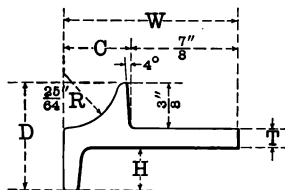


M-276—Bally No. 16.
1.36 Lbs. per Ft.



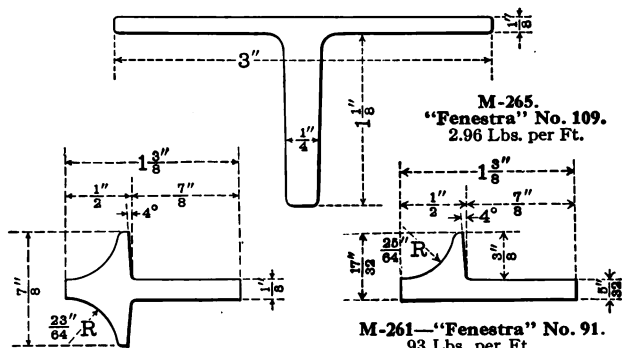
M-520.
Bally No. 18.
.95 Lbs. per Ft.

WINDOW SASH STEEL.



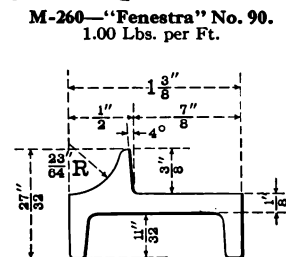
"Fenestra."

Section Number	Customer's Number	W Inches	C Inches	D Inches	H Inches	T Inches	Wt. per Ft. Pounds
M-259	70	$1\frac{17}{32}$	$\frac{21}{32}$	$1\frac{1}{2}$	1	$\frac{1}{8}$	1.27
M-263	93	$1\frac{13}{16}$	$\frac{1}{2}$	$\frac{7}{8}$	$\frac{11}{32}$	$\frac{5}{32}$	1.10
M-264	94	$1\frac{3}{8}$	$\frac{1}{2}$	$1\frac{1}{2}$	1	$\frac{1}{8}$	1.20
M-266	194	$1\frac{33}{64}$	$\frac{1}{2}$	2	$1\frac{1}{2}$	$\frac{1}{8}$	1.58

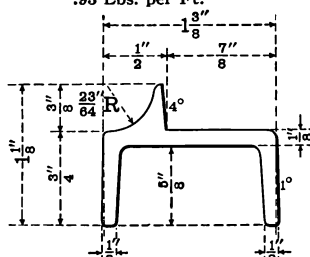


M-265.
"Fenestra" No. 109.
2.96 Lbs. per Ft.

M-261—"Fenestra" No. 91.
.93 Lbs. per Ft.



M-260—"Fenestra" No. 90.
1.00 Lbs. per Ft.

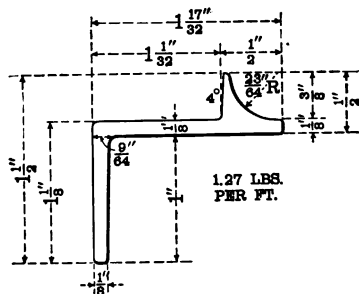


M-266—"Fenestra" No. 192.
1.36 Lbs. per Ft.

M-262—"Fenestra" No. 92.
1.12 Lbs. per Ft.

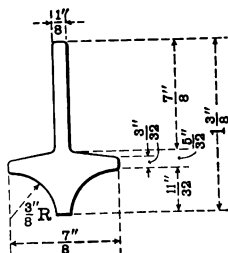
WINDOW SASH STEEL.—(Continued)

M-524—"Fenestra" No. 71.



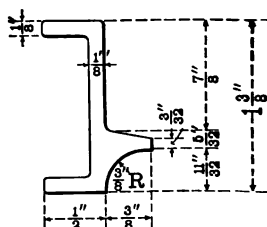
M-532—"Thorn" No. 1.

1.15 Lbs. per Ft.



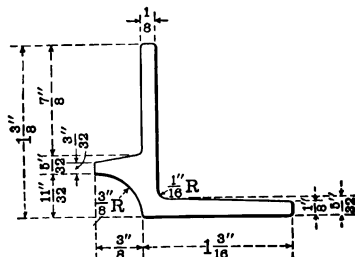
M-533—"Thorn" No. 2.

1.25 Lbs. per Ft.



M-534—"Thorn" No. 3.

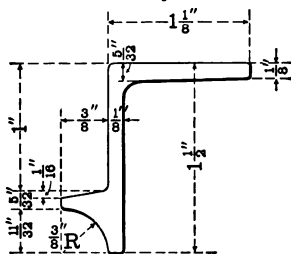
1.36 Lbs. per Ft.



WINDOW SASH STEEL.

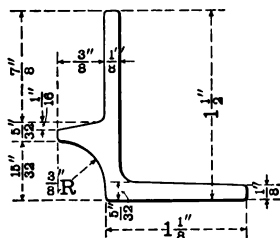
M-569—"Thorn" No. 5.

1.40 Lbs. per Ft.



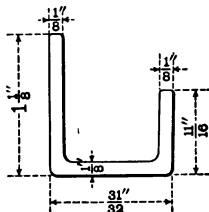
M-570—"Thorn" No. 6.

1.40 Lbs. per Ft.



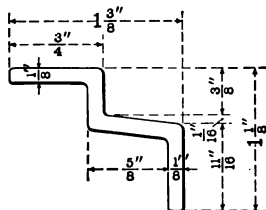
M-571—"Thorn" No. 7.

1.09 Lbs. per Ft.



M-572—"Thorn" No. 8.

1.00 Lbs. per Ft.



SECTION B.

**AGRICULTURAL STEEL
AND
SPECIALTIES**

Drag Harrow, Spring Harrow, Weeder,
Tedder and Rake Teeth.

Harrow, Plow and
Drill Disks.

Coulters, Knife Backs and Finger Bars,
Pressed Steel Seats,
Seat Springs.

**PLOW STEEL, CULTIVATOR STEEL,
FLAT PLOW SHAPES.**

Bevel Edge Steel, Grain Drill Steel,
Runner Steel, Small I-Beams
and other Shapes.

AGRICULTURAL IMPLEMENT SEATS.

The attention of manufacturers of all kinds of Agricultural Implements is called to the complete line of Pressed Steel Seats several of which are illustrated on the following pages.

The chief merits of Pressed Steel Seats are their light weight and durability. They are made from a uniform quality of steel and will not break, either in shipment or in use. They are all Hot Pressed and are consequently stronger than Cold Pressed Seats. The perforations are pressed down, making a smooth seat, and adding materially to its strength. The edges are ground smooth and drain holes are provided to keep the seat dry.

These Seats are made to fit any widths of seat springs to which they are readily attached and firmly secured by means of our improved methods and construction of fastenings. They are also provided with reinforcement plates, if desired.



AGRICULTURAL IMPLEMENT SEATS.

Approximate Size, $\frac{1}{6}$



No. 1



No. 2



No. 3

AGRICULTURAL IMPLEMENT SEATS.Approximate Size, $\frac{1}{6}$ 

No. 1



No. 5



No. 8

AGRICULTURAL IMPLEMENT SEATS.

A few of the most popular sizes and typical patterns of seats are illustrated on the preceding pages, our regular list including these, being as follows:

STANDARD PATTERNS.

- No. 1. . . Large Size Shallow Seat, for Mowers, Reapers, Disk Harrows, etc.
18 inches wide, 13 inches deep, $2\frac{1}{2}$ inches high.
- No. 1 $\frac{1}{2}$. . Large Size Seat, for Mowers, Reapers, Disk Harrows, etc.
18 inches wide, 13 inches deep, $2\frac{1}{2}$ inches high.
- No. 2. . Large Size Deep Seat, for Mowers, Reapers, Disk Harrows, etc.
18 inches wide, 13 inches deep, $3\frac{1}{2}$ inches high.
- No. 3. . Medium Size Seat, for use on implements when preferred to the larger seats.
 $16\frac{1}{2}$ inches wide, 13 inches deep, 2 inches high.
- No. 4. . Small Saddle Seat, designed for implements such as Rakes, Cultivators, etc., in the operation of which it is necessary to have full and easy play of the legs.
 $13\frac{1}{4}$ inches wide, $12\frac{3}{4}$ inches deep, $1\frac{1}{4}$ inches high.
- No. 5. . Large Saddle Seat, for Corn Planters, Plows, Cultivators, etc.
 $16\frac{1}{2}$ inches wide, $13\frac{1}{2}$ inches deep, $2\frac{3}{4}$ inches high.
- No. 7. . Special Pattern.
18 inches wide, 14 inches deep, $2\frac{1}{2}$ inches high.
- No. 8. . Extra Large Deep Seat, for Mowers, Reapers, Binders, etc.
 $19\frac{1}{4}$ inches wide, $14\frac{1}{2}$ inches deep, $3\frac{1}{2}$ inches high.
- No. 9. . Extra Large Seat.
18 inches wide, $14\frac{1}{2}$ inches deep, $2\frac{1}{2}$ inches high.
- Any other patterns made to order.

When ordering, please specify:

1. Pattern number wanted.
2. Width of spring to be used.
3. Size and shape (round or square) of bolt hole.

ANGLES—See Section A.

AGRICULTURAL SEAT SPRINGS.

On the opposite page are shown a few typical styles of seat springs for agricultural implements, such as mowers, reapers, sulky plows, disk plows, disk harrows, cultivators, spring tooth harrows, etc. We can, however, make any sizes and styles desired, as our equipment for this manufacture is complete. All our springs are manufactured from our own solid spring steel, carefully formed, oil tempered, tested and inspected before shipment.

Also see "Springs," Sections A and B.

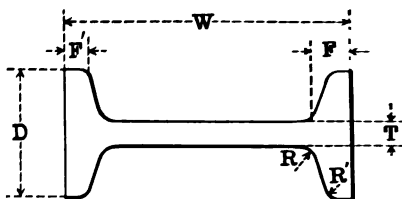


AGRICULTURAL SEAT SPRINGS.

Approximate Size, $\frac{1}{8}$



BEAMS.



Section No.	W	D	T	F	F'	R	R'	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Pounds

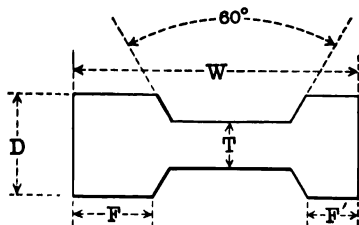
STANDARD.

B-5	3	2.33	.17	.35	.17	.27	.10	5.5
"	3	2.42	.26	.35	.17	.27	.10	6.5
"	3	2.52	.36	.35	.17	.27	.10	7.5
B-9	4	2.66	.19	.40	.19	.29	.11	7.5
"	4	2.73	.26	.40	.19	.29	.11	8.5
"	4	2.81	.34	.40	.19	.29	.11	9.5
"	4	2.88	.41	.40	.19	.29	.11	10.5

SPECIAL BAR SIZE.

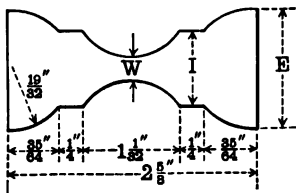
B-180	2 1/4	1 1/4	1/4	1/4	1/4	1/4	1/4	1.91
-------	-------	-------	-----	-----	-----	-----	-----	------

BEAMS—CULTIVATOR.

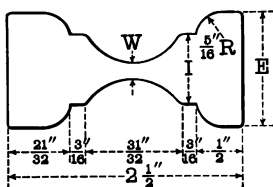


Section Number	W	D	T	F	F'	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Pounds
B-201	1 1/2	1 1/2	1/4	1 1/2	1/4	2.15
"	1 1/2	1 1/2	1/4	1 1/2	1/4	2.31
"	1 1/2	1 1/2	1/4	1 1/2	1/4	2.63

BEAMS—PLOW.



B-306 No. 1



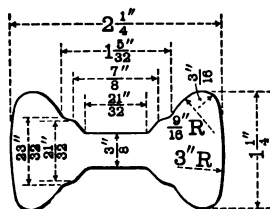
B-307 No. 2

Section Number	W	I	E	Weight per Foot
	Inches	Inches	Inches	Pounds
B-306	$\frac{1}{4}$	$\frac{25}{32}$	$1\frac{1}{4}$	6.85
"	$\frac{3}{8}$	$\frac{25}{32}$	$1\frac{3}{8}$	7.97
"	$\frac{1}{2}$	$1\frac{1}{32}$	$1\frac{1}{2}$	9.10
"	$1\frac{1}{8}$	$1\frac{3}{8}$	$1\frac{5}{8}$	9.66
"	$1\frac{5}{8}$	$1\frac{3}{2}$	$1\frac{5}{8}$	10.22
"	$1\frac{3}{4}$	$1\frac{3}{2}$	$1\frac{3}{4}$	11.35
B-307	$\frac{7}{32}$	$\frac{3}{4}$	$1\frac{1}{4}$	6.91
"	$\frac{9}{32}$	$1\frac{3}{8}$	$1\frac{5}{8}$	7.44
"	$1\frac{1}{32}$	$1\frac{3}{8}$	$1\frac{3}{8}$	7.97
"	$1\frac{1}{32}$	1	$1\frac{1}{2}$	9.04
"	$1\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{5}{8}$	10.10

B-309.

No. 6: "Deere" No. 21.

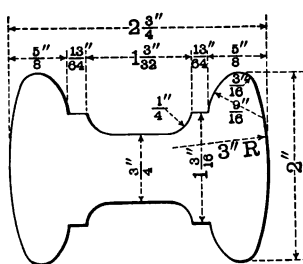
5.95 Lbs. per Ft.



B-314.

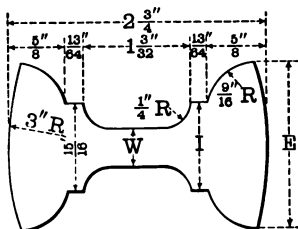
No. 4: "Deere" No. 18.

11.90 Lbs. per Ft.



BEAMS—PLOW.

(Continued)

**B-308—No. 5.**

Section Number	W	I	E	Weight per Foot
	Inches	Inches	Inches	Pounds
B-308	$\frac{5}{16}$	$\frac{13}{16}$	$1\frac{5}{8}$	8.16
"	$\frac{7}{16}$	$1\frac{1}{4}$	$1\frac{3}{4}$	9.33

The foregoing lists of beams comprise only our smaller sizes for agricultural implements, etc. For full lists, drawings and data relating to our complete line of I-Beams from 3 inches to 24 inches, inclusive, see our structural book entitled "CAMBRIA STEEL."

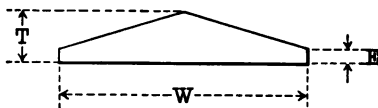


BEVEL EDGE STEEL.

For Heel Sweeps, Stalk Cutters, Scraper Blades, etc.

CULTIVATOR BEVELS.

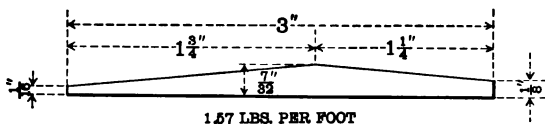
Used in Cultivators, Grain Drills, Etc.

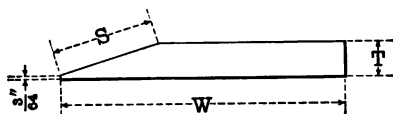


Section No.	W	T	E	Weight per Foot	Section No.	W	T	E	Weight per Foot
	Ins.	Ins.	Ins.	Pounds		Ins.	Ins.	Ins.	
M-172	1 1/4	1 1/4	3/4	1.02	M-186	3	No. 8	No. 12	1.40
M-173	2	No. 8	No. 15	.81	M-187	3	1 1/8	3/4	1.20
M-174	2	3/8	1/8	.85	M-188	3	1 1/8	3/4	1.36
M-175	2 1/4	1/2	3/4	.66	M-189	3	1 1/8	3/4	1.51
M-176	2 1/4	1 1/8	1/8	.96	M-190	3 1/4	1 1/8	1/8	1.38
M-177	2 1/4	1 1/8	3/4	1.13	M-191	3 3/8	1 1/4	1/4	2.06
M-178	2 1/4	7/8	1/2	1.31	M-192	3 1/2	1 1/4	1/8	1.86
M-179	2 1/2	1 1/8	1/8	.93	M-193	3 1/2	1 1/2	3/8	2.98
M-180	2 1/2	1 1/8	3/4	1.00	M-194	4	1 1/2	1/8	1.81
M-181	2 3/4	1 1/8	1/8	1.03	M-195	5 1/2	1 1/2	1/8	2.70
M-182	2 3/4	1 1/8	1/8	1.17	M-196	6	1 1/8	1/8	8.93
M-183	2 3/4	1 1/8	1/8	1.68	M-197	7	1 1/8	3/8	3.35
M-184	3	1 1/8	3/4	.88	M-198	8	1 1/8	3/4	3.61
M-185	3	1 1/8	1/8	1.12	....	..	..	..	..

CULTIVATOR BEVEL.

(Irregular Shape—M-375.)



BEVEL EDGE STEEL.—(Continued)**STANDARD SINGLE BEVELS.****“Bevel Nose.”****Weight of Each Size in Pounds per Lineal Foot.**

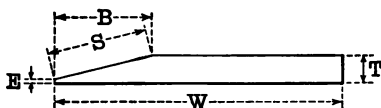
Bevel S	Thick- ness T	WIDTH — W — IN INCHES									
		Ins.	1½	2	2½	2¾	3	3¼	3½	3¾	4
5 8	¾		.97	1.13	1.29	1.45	1.61	1.77	1.93	2.09	2.25
	⅞		1.28	1.49	1.71	1.92	2.13	2.34	2.56	2.77	2.98
	1		1.60	1.87	2.13	2.40	2.66	2.93	3.19	3.46	3.72
1	1/8					1.35	1.51	1.67	1.83	1.99	2.15
	1/4					1.79	2.00	2.22	2.43	2.64	2.85
	3/8					2.22	2.49	2.75	3.02	3.28	3.55
	1/2					2.66	2.98	3.30	3.62	3.94	4.26
1½	1/8						1.11	1.22	1.32	1.43	1.54
	1/4						1.62	1.78	1.94	2.10	2.26
	1/2						2.13	2.34	2.56	2.77	2.98
1¾	3/8						1.56	1.72	1.88	2.04	2.20
	1/2						2.04	2.25	2.47	2.68	2.89

Special Nut Lock Single Bevels.
 See “Nut Lock Steel” Section A.

BEVEL EDGE STEEL.

(Continued)

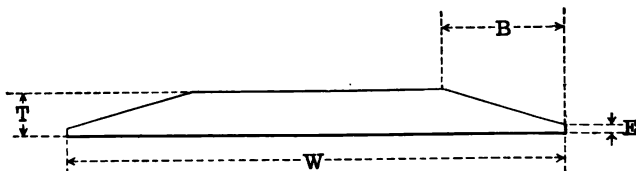
For Heel Sweeps, Stalk Cutters, Scraper Blades, etc.

SPECIAL SINGLE BEVELS.

Section Number	W	T	E	B	S	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Pounds
M-437	$\frac{3}{4}$	$\frac{7}{32}$	$\frac{1}{32}$	.....	$\frac{3}{8}$	.46
M-438	1	$\frac{3}{16}$	$\frac{1}{32}$	.....	$\frac{1}{8}$	.56
M-439	$1\frac{1}{4}$	$\frac{3}{16}$	$\frac{1}{32}$	.....	(45°)	.74
M-440	$1\frac{1}{2}$	$\frac{1}{8}$	$\frac{3}{64}$	$\frac{1}{4}$	.....	.61
M-441	$1\frac{1}{2}$	$\frac{9}{32}$	$\frac{1}{32}$	$\frac{1}{16}$	.....	1.16
M-442	2	$\frac{1}{4}$	$\frac{1}{32}$	1	.....	2.60
M-443	2	$\frac{5}{8}$	$\frac{1}{32}$	1	.....	3.20
M-444	$2\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{4}$	$\frac{1}{2}$	.....	3.10
M-445	$2\frac{3}{8}$	$\frac{5}{16}$	$\frac{1}{32}$	$1\frac{1}{4}$	.....	1.86
M-446	$2\frac{3}{4}$	$\frac{5}{16}$	$\frac{1}{32}$	.....	$1\frac{3}{4}$	2.13
M-447	3	$\frac{1}{8}$	$\frac{1}{32}$	.....	$\frac{3}{8}$	1.18
M-448	3	$\frac{1}{32}$	$\frac{1}{32}$	.....	1	1.39
M-449	3	$\frac{1}{16}$	$\frac{3}{64}$	2	.....	2.29
M-450	$3\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{32}$	.....	$\frac{5}{8}$	1.35
M-451	$3\frac{1}{2}$	$\frac{1}{32}$	$\frac{1}{32}$	.....	$\frac{3}{4}$	1.70
M-452	$3\frac{1}{2}$	$\frac{1}{32}$	$\frac{1}{32}$	.....	1	2.32
M-453	4	$\frac{9}{32}$	$\frac{1}{32}$	.....	$1\frac{1}{4}$	3.23
M-454	$4\frac{1}{2}$	$\frac{9}{32}$	$\frac{1}{32}$	.....	1	3.91
M-455	$4\frac{1}{2}$	$\frac{5}{16}$	$\frac{1}{32}$	.....	1	4.33
M-456	$4\frac{3}{4}$	$\frac{9}{32}$	$\frac{1}{32}$	.....	1	4.06
M-457	6	$\frac{1}{8}$	$\frac{1}{32}$	$\frac{1}{2}$	.....	2.45

BEVEL EDGE STEEL.

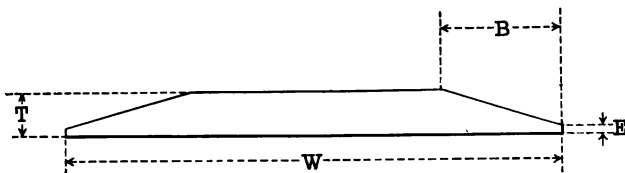
(Continued)

DOUBLE BEVELS.**Bevel Shaft, Tongue Cap, Wagon Box.**"E" is from $\frac{1}{4}$ to $\frac{1}{2}$ inch when not otherwise shown.

Section Number	W Inches	T Inches	E Inches	B Inches	Weight per Foot Pounds
M-199	$\frac{5}{8}$	$\frac{1}{4}$	$\frac{3}{64}$	$\frac{1}{8}$	.49
M-200	$\frac{3}{4}$	No. 14	.	$\frac{1}{16}$	.15
M-201	$\frac{3}{4}$	No. 14	.	$\frac{3}{64}$	.18
M-202	$\frac{3}{4}$	No. 13	.	$\frac{1}{8}$	.20
M-203	$\frac{3}{4}$	No. 12	.	$\frac{1}{8}$	.24
M-204	$\frac{3}{4}$	$\frac{3}{16}$	$\frac{1}{32}$	$\frac{1}{16}$	.38
M-205	$\frac{1}{2}$	No. 12	.	$\frac{3}{64}$	.27
M-206	$\frac{7}{8}$	No. 14	.	$\frac{3}{32}$	.23
M-207	$\frac{7}{8}$	No. 12	.	$\frac{1}{8}$	.28
M-208	$\frac{7}{8}$	$\frac{1}{4}$	.	$\frac{3}{32}$	.61
M-209	$\frac{7}{8}$	$\frac{1}{8}$	.	$\frac{5}{32}$	.79
M-210	1	$\frac{1}{4}$	.	$\frac{3}{32}$	.72
M-211	$1\frac{1}{8}$	$\frac{1}{4}$	.	$\frac{3}{32}$	.82
M-212	$1\frac{1}{4}$	$\frac{1}{8}$	.	$\frac{1}{8}$	.48
M-435	$1\frac{1}{4}$	$\frac{1}{8}$	$\frac{3}{64}$	$\frac{1}{16}$	1.16
M-213	$1\frac{1}{4}$	$\frac{3}{16}$	.	$\frac{3}{64}$	1.30
M-214	$1\frac{1}{2}$	$\frac{5}{16}$	$\frac{3}{64}$	$\frac{7}{32}$	1.40
M-527	$1\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{16}$	$\frac{1}{16}$	1.58
W-106	$2\frac{1}{2}$	$\frac{1}{8}$	$\frac{3}{32}$	$\frac{1}{8}$	.90
M-215	$2\frac{1}{2}$	$\frac{3}{32}$	$\frac{3}{32}$	$\frac{1}{4}$	1.70
M-216	$2\frac{1}{2}$	No. 4	.	$\frac{1}{16}$	1.65
M-217	$2\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{16}$	1	1.70
M-218	3	$\frac{1}{8}$	$\frac{1}{16}$	$\frac{3}{4}$	1.60
W-107	$3\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{32}$	2.34

BEVEL EDGE STEEL.

(Continued)

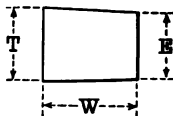
DOUBLE BEVELS.—(Continued)

Section Number	W	T	E	B	Weight per Foot
	Inches	Inches	Inches	Inches	Pounds
M-219	3½	1/8	1/8	12½	2.13
W-109	4½	1/8	3/8	15½	4.80
M-220	5½	1/4	1/8	1	4.36
M-221	5½	No. 12	1/8	1/2	1.90
M-222	6	No. 12	1/8	1/2	2.09
M-223	6½	3/8	1/8	1	5.01
M-224	6½	5/8	1/8	1	5.70
M-225	6½	11/8	1/8	1	6.47
M-226	6½	No. 12	1/8	1/2	2.27
M-227	7	No. 12	1/8	1/2	2.46
M-228	8	5/8	5/8	1	7.65
M-229	8½	1/4	5/8	7/8	6.48
M-230	8½	1/8	5/8	7/8	8.10
M-231	9	1/4	5/8	7/8	6.90
M-232	9	5/8	5/8	7/8	8.64
M-233	10	1/4	5/8	7/8	7.76
M-234	10	5/8	5/8	7/8	9.69
M-235	10	3/8	5/8	7/8	11.64
M-236	11	1/4	5/8	7/8	8.61
M-237	11	5/8	5/8	7/8	10.75

See also "Double Bevel Plow Steel."

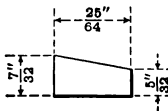
BEVEL EDGE STEEL.

(Continued)

BLUNT WEDGE SHAPE BEVEL.**Thick Shape.**

Section Number	W	T	E	Weight per Foot
	Inches	Inches	Inches	Pounds
M-146	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	.29
M-147	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	.32
M-148	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	.48
M-103	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	.41
M-512	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	.37
M-149	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	.33
M-150	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	.44
M-151	$\frac{1}{2}$	.277	.209	.44
M-152	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	.51
M-153	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	.61
M-155	1	$\frac{1}{2}$	$\frac{1}{2}$	2.44
M-156	$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	2.79
M-160	$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	5.21
M-161	$1\frac{7}{8}$	1	$\frac{3}{4}$	5.88
M-162	$1\frac{7}{8}$	1	$\frac{1}{2}$	5.98
M-164	2	$1\frac{1}{8}$	$\frac{1}{2}$	6.80

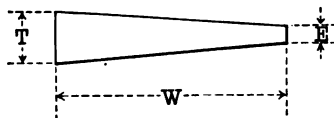
* Used for making nut locks.

SPECIAL BEVEL.**M-515.**

.25 Lbs. per Ft.

BEVEL EDGE STEEL

(Continued)

BLUNT WEDGE SHAPE BEVEL.**Thin Shape.**

Section Number	W	T	E	Weight per Foot
	Inches	Inches	Inches	Pounds
M-154	$\frac{3}{4}$	$\frac{7}{32}$	$\frac{3}{32}$	.40
M-157	$1\frac{1}{2}$	$\frac{7}{32}$	$\frac{1}{16}$	3.03
M-158	$1\frac{3}{4}$	$\frac{3}{8}$	$\frac{3}{32}$	1.40
M-159	$1\frac{3}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	2.97
M-163	2	$\frac{5}{16}$	$\frac{1}{8}$	1.49
M-165	$2\frac{1}{32}$	$\frac{7}{32}$	$\frac{1}{8}$	1.19
M-166	$2\frac{1}{32}$	$\frac{15}{64}$	$\frac{3}{32}$	1.14
M-167	$2\frac{1}{16}$	$\frac{1}{4}$	$\frac{1}{8}$	1.32
M-168	$2\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{16}$	1.70
M-169	$2\frac{1}{4}$	1	$\frac{3}{4}$	6.70
M-170	$2\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{16}$	3.45
M-171	$3\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{32}$	2.59

Used for Skate Runners, Screen Bars, Cotton Tie Buckles, Washers, Etc.

ROUND BEVEL EDGE STEEL.

(Reach Plate.)

See "Flats with Two Round Corners," Section A.

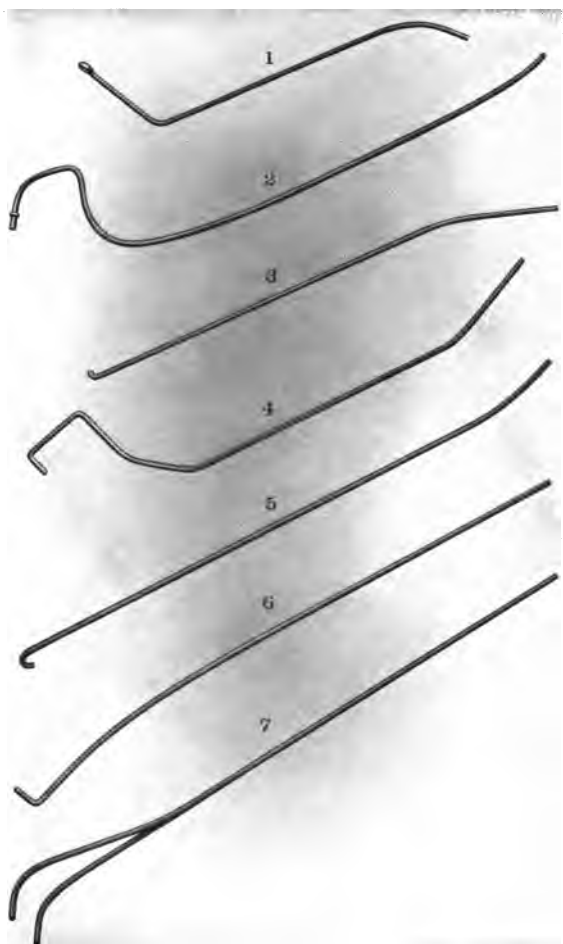
“ BULL TONGUES ”

**Or Cultivator Points made to any pattern in any size.
See “ Cultivator Points.”**

BUNDLE-CARRIER TEETH.

On the opposite page are shown a few typical styles of bundle-carrier teeth. These are made of our solid spring steel, oil tempered and tested. We can make any other sizes or patterns that may be desired.

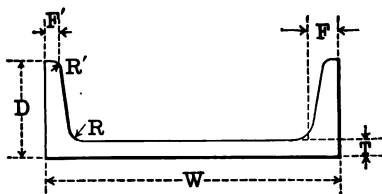


BUNDLE-CARRIER TEETH.Approximate Size, $\frac{1}{16}$ 

CHANNELS.

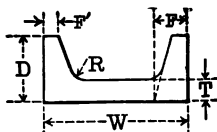
For agricultural implements, fences, railings and other purposes. Also see "Channels," Section A.

Standard.



Section Number	W	D	T	F	F'	R	R'	Weight per Ft.
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Pounds
C-5	3	1.41	.17	.38	.17	.27	.10	4.00
"	3	1.50	.26	.38	.17	.27	.10	5.00
"	3	1.60	.36	.38	.17	.27	.10	6.00
C-9	4	1.58	.18	.41	.18	.28	.11	5.25
"	4	1.65	.25	.41	.18	.28	.11	6.25
"	4	1.73	.33	.41	.18	.28	.11	7.25

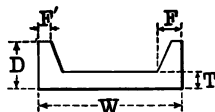
Square Toed, Filleted.



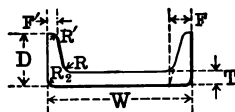
Section Number	W	D	T	F	F'	R	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Inches	Pounds
C-206	1½	1½	¼	..	5/32	1/16	1.96
"	1½	1½	3/32	..	5/32	1/16	2.12
"	1½	1½	3/4	..	5/32	1/16	2.28

CHANNELS.

(Continued)

Square Toed, Without Fillets.

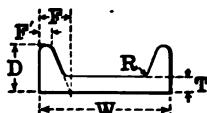
Section Number	W	D	T	F	F'	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Pounds
C-324	$\frac{3}{4}$	$\frac{17}{64}$	$\frac{5}{64}$	$\frac{3}{16}$	$\frac{3}{32}$	.39
C-325	$\frac{3}{4}$	$\frac{19}{64}$	$\frac{7}{64}$	$\frac{3}{16}$	$\frac{3}{32}$	.46
C-326	1	$\frac{3}{8}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{7}{64}$	.68
C-202	1	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{1}{8}$	.77
C-328	1	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{16}$	$\frac{7}{64}$	.84
C-329	$1\frac{1}{8}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{1}{8}$	1.04
C-354	$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	1.00
C-331	$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{16}$	$\frac{3}{32}$	$\frac{3}{32}$	1.15
C-333	$1\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{16}$	.96
C-334	$1\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{16}$	$\frac{15}{64}$	$\frac{7}{64}$	1.32
C-341	2	$\frac{19}{32}$	$\frac{17}{64}$	$\frac{15}{64}$	$\frac{15}{64}$	2.09
C-343	$2\frac{1}{2}$	$\frac{15}{32}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	1.52
C-344	$2\frac{1}{2}$	$\frac{5}{8}$	$\frac{1}{16}$	$\frac{21}{64}$	$\frac{1}{8}$	2.27
C-345	$2\frac{1}{2}$	$\frac{3}{4}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{1}{8}$	2.93

Round Cornered.

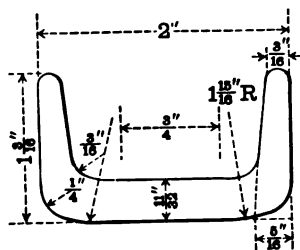
Section Number	W	D	T	F	F'	R	R'	R ₂	Weight per Foot
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Pounds
C-208	$1\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{8}$	$\frac{3}{32}$	$\frac{1}{16}$	$\frac{3}{32}$	1.57
C-339	$1\frac{11}{16}$	$\frac{3}{4}$	$\frac{3}{16}$	$\frac{21}{64}$	$\frac{1}{8}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	1.82
C-342	$2\frac{3}{16}$	$\frac{7}{16}$	$\frac{3}{32}$	$\frac{5}{16}$	$\frac{3}{16}$	$\frac{3}{32}$	$\frac{1}{16}$	$\frac{3}{32}$	1.78

CHANNELS.

(Continued)

Round Toed.

Section Number	W	D	T	F	F'	R	Weight per Foot
	Inches	Inches	Inches	Inches	Inches	Inches	Pounds
C-204	$1\frac{1}{4}$	$\frac{9}{16}$	$\frac{3}{16}$	$\frac{7}{16}$	$\frac{5}{16}$	$\frac{1}{8}$	1.18
C-332	$1\frac{1}{4}$	$\frac{11}{16}$	$\frac{3}{16}$	$\frac{7}{16}$	$\frac{5}{16}$	..	1.60
C-335	$1\frac{1}{4}$	$\frac{11}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{5}{16}$	$\frac{1}{8}$	1.52
C-338	$1\frac{1}{4}$	$\frac{11}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{5}{16}$	$\frac{1}{8}$	1.82
C-340	2	$\frac{11}{16}$	$\frac{1}{8}$	$\frac{7}{16}$	$\frac{5}{16}$	..	1.74

Special Round Toed, Round Cornered Channel.

C-217

3.60 pounds per Foot

For full line of Structural Channels, 3 to 18 inches, see structural book entitled "CAMBRIA STEEL."

CHAINS.

Special type chains for Potato Diggers and other agricultural machines, may be made to style and requirements, as arranged.

CHECK ROWER STEEL.

For Check Rower Rods and Shafts, hot rolled or cold rolled, all sizes.

CHECK ROWER FORK STEEL.

Flat bars $\frac{5}{8}$ x $\frac{3}{16}$ -inch— $\frac{3}{4}$ x $\frac{3}{16}$ -inch round edge, or other sizes desired.

COLD ROLLED SHAFTING.

For agricultural implements and all other kinds of machinery, see "Cold Rolled Steel" in Section "A" herein.

CORN PLANTER RUNNER STEEL.

See "Runner Steel."

CORN PLANTER RUNNERS.

See "Runner Steel."



COULTER BLADES—ROLLING.

Below is a list of our regular sizes of rolling coulters blades, made of our special high-grade steel, ground and polished on both sides, sharp and true, punched as desired.

Inches Diameter Thickness	Inches Diameter Thickness	Inches Diameter Thickness
8 x $\frac{1}{8}$	15 x $\frac{5}{8}$	19 x $\frac{5}{8}$
9 x $\frac{1}{8}$	15 x $\frac{3}{16}$	19 x $\frac{3}{16}$
10 x $\frac{1}{8}$	15 x $\frac{1}{4}$	20 x $\frac{5}{8}$
10 x $\frac{5}{8}$	16 x $\frac{5}{8}$	20 x $\frac{3}{16}$
11 x $\frac{5}{8}$	16 x $\frac{3}{16}$	22 x $\frac{3}{16}$
12 x $\frac{5}{8}$	17 x $\frac{5}{8}$	24 x $\frac{3}{16}$
12 $\frac{3}{4}$ x $\frac{1}{8}$	17 x $\frac{3}{16}$	26 x $\frac{3}{16}$
13 x $\frac{5}{8}$	18 x $\frac{5}{8}$	
14 x $\frac{5}{8}$	18 x $\frac{3}{16}$	

Intermediate sizes can be furnished.

We can also furnish circular blanks for rolling coulters, punched if desired. Regular sizes from 8 inches to 26 inches diameter.

COULTER STEEL.

Flat bars for knife coulters, 2 $\frac{1}{4}$ to 3 $\frac{1}{2}$ x $\frac{3}{8}$ to $\frac{3}{4}$ inches.



COULTER BLADES—ROLLING.

Approximate Size, $\frac{1}{8}$



Rolling Coulters.
(Polished)

Rolling Coulters
or Drill Disk.
(Unpolished)



Rolling Coulters.
(Blank)

CULTIVATOR BEAMS.

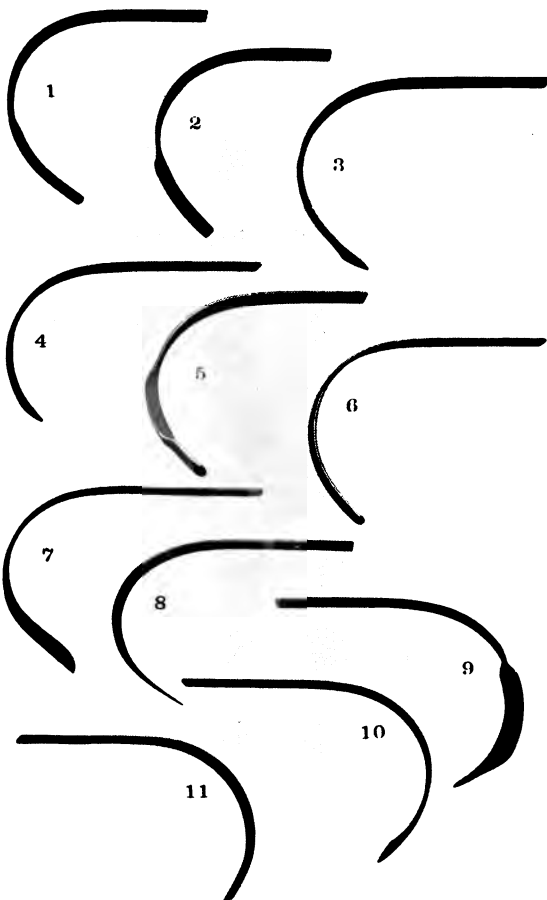
(See "Beams—Cultivator," in Section B herein.)

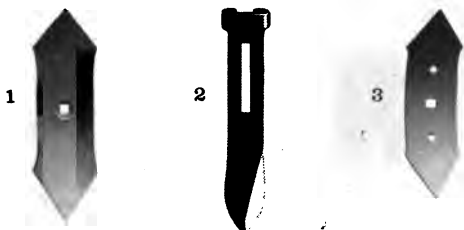
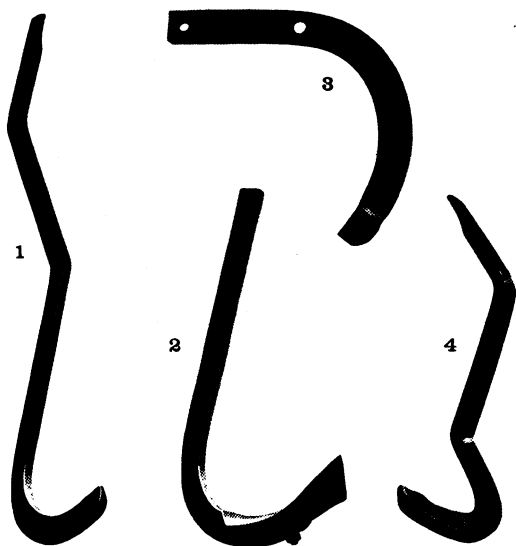
CULTIVATOR TEETH.

We make hundreds of styles of spring cultivator teeth, some of which are illustrated on the following pages. These are all made of our high-grade spring steel, carefully heated, formed, oil tempered and tested.

We also make many kinds of spring tooth cultivator points formed to shape, punched and ground to meet any requirements, or can supply these as flat sheared shapes.



CULTIVATOR TEETH.Approximate Size, $\frac{1}{16}$ 

CULTIVATOR POINTS.**"Bull Tongues"**Approximate Size, $\frac{1}{12}$ **Cultivator or Plow Feet**Approximate Size, $\frac{1}{12}$ 

CULTIVATOR FENDER.

Approximate Size, $\frac{1}{8}$



CULTIVATOR PARTS.Approximate Size, $\frac{1}{8}$ Spoon Shovel
(Right)Cultivator
ToothSpoon Shovel
(Left)**Cultivator Bars**

1



2



3



4



5



6

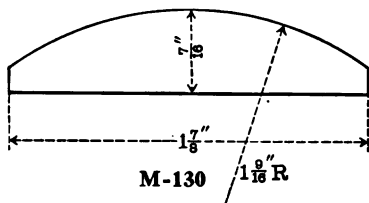


7

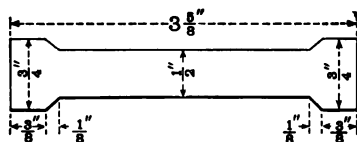
CULTIVATOR STEEL.

In sheets, plates, flats, $\frac{1}{8}$ to $\frac{3}{8}$ inch thick, any widths desired.

Our special stock for cultivator shovels and parts has good wearing qualities and takes a beautiful polish.

CULTIVATOR TOOTH BAR.

2.07 pounds per Foot.

**CYLINDER KNIFE BAR.
(I-BAR.)**

6.9 pounds per Foot.

DIGGER BLADE STEEL.

Plain or bevel edge. No. 12 gauge to $\frac{3}{16}$ inch thick.

DIGGER BLADES.

Various patterns of finished digger blades made to order.

DISKS.

The Cambria Steel Company is the pioneer in the manufacture of concave and flat disks with rolled edges, for use in the construction of disk harrows, disk drills and disk plows, and has made a special study of this business in all its branches.

We have a new disk plant equipped solely for this manufacture and fitted with special machinery, so that our facilities are the largest and best in the world. Every heat of steel for disks is made to order for this work and is the best suited for the purpose to insure proper and regular quality.

The bevel on the circular disks is rolled by special machinery which hardens the wearing edge and makes them work and wear better than those made in any other manner.

We are constantly on the alert regarding every detail of this manufacture, in order to maintain our reputation as headquarters for the best disks.

The examples on the following pages will show a few styles, but we can make anything necessary in this line, if orders are of sufficient quantity.

HARROW AND DRILL DISKS.

10 to 20 inches, diameter.

Weights, 1.85 to 13.88 pounds each.



DISKS.

Approximate Size, $\frac{1}{8}$



DISKS.

(Continued)

SHEAR CUT DISKS.

16 to 20 inches, diameter.

Weights, 6.64 to 13.00 pounds each.

PLOW DISKS.23 to 28 $\frac{1}{4}$ inches, diameter.

Weights, 18 to 40 pounds each.

Bevel on regular sizes, Round and Shear-Cut
Disks, $\frac{1}{4}$ to $\frac{3}{4}$ inches.

Bevel on Plow Disks, $\frac{7}{8}$ to 1 $\frac{1}{4}$ inches.

Holes any size or shape desired.

Special shapes or special sizes made to order.

**Polished Drill Disk.**

DISKS.

Approximate Size, $\frac{1}{12}$



Polished Plover Disk
Single Hole.



Polished Plover Disk
5-Hole



Polished Countersunk
Disk.

DISKS.—(Continued)
DISKS FOR HARROWS, DRILLS, PLOWS, &c.

Diameter	Thickness	Approximate Weight per Disk	Concave
Inches	Gauge No.	Pounds	Inches
10	14	1.85	$1\frac{1}{8}, 1\frac{1}{8}$
	13	2.11	
	12	2.43	
	11	2.67	
11	14	2.24	$1\frac{1}{8}, 1\frac{3}{8}$
	13	2.56	
	12	2.94	
	11	3.23	
12	14	2.66	$\frac{7}{8}, 1\frac{5}{8}$
	13	3.04	
	12	3.49	
	11	3.84	
	10	4.29	
13	13	3.57	$1\frac{1}{8}, 2, 1\frac{3}{8}, 1\frac{5}{8}$
	12	4.10	
	11	4.51	
	10	5.04	
14	13	4.14	$1\frac{1}{8}$
	12	4.75	
	11	5.23	
	10	5.84	
15	12	5.46	$1\frac{1}{4}$
	11	6.01	
	10	6.71	
16	12	6.21	$1\frac{3}{8}, 1\frac{1}{2}, 1\frac{5}{8}$
	11	6.84	
	$\frac{11}{8}$	7.12	
	10	7.63	
	9	8.43	
18	$\frac{11}{8}$	9.01	$1\frac{5}{8}, 1\frac{3}{4}, 1\frac{7}{8}$
	10	9.66	
	9	10.66	
20	10	11.93	$1\frac{3}{4}, 2, 2\frac{3}{8}, 2\frac{1}{2}$
	9	13.17	
	$\frac{5}{8}$	13.88	

DISKS.—(Continued)**CUTAWAY DISKS.**

Diameter	Thickness	Approximate Weight per Disk	Concave
Inches	Gauge No.	Pounds	Inches
16	9	6.64	$1\frac{3}{8}, 1\frac{1}{2},$ $1\frac{5}{8}$
	8	7.42	
	7	8.10	
18	9	9.05	$1\frac{5}{8}$
	8	10.10	
	7	11.02	
20	9	11.09	$1\frac{11}{16}$ $1\frac{13}{16}$ $1\frac{15}{16}$
	8	12.36	
	7	13.50	

PLOW DISKS.

Diameter	Thickness		Approximate Weight per Disk	Concave
Inches	Gauge	Inches	Pounds	Inches
23	10		18.00	$3\frac{5}{8}$
			19.00	
		$\frac{5}{32}$	20.50	
		$\frac{3}{16}$	24.75	
24		$\frac{5}{32}$	22.50	$3\frac{7}{16}$ $3\frac{11}{16}$
		$\frac{3}{16}$	25.50	
25	7		26.54	$4\frac{3}{16}$
		$\frac{3}{16}$	27.58	
26		$\frac{5}{32}$	26.75	$3\frac{7}{8}$
		$\frac{3}{16}$	31.00	
28 $\frac{1}{2}$		$\frac{3}{16}$	40.00	$4\frac{1}{4}, 5\frac{3}{8}$



CUTAWAY DISKS.**Approximate Size, $\frac{1}{4}$** **Cutaway Disk.
6-Notch.****Cutaway Disk.
8-Notch.****Cotton Planter Wheel**

DRILL POINTS.

For Grain Drills. All Patterns. Finished or Flat Shapes.

DRILL POINT STEEL.

(See "Bevel Edge Steel" for Cultivators, Grain Drills, etc.)

DRILL RUNNER STEEL.

(See "Runner Steel.")

DRILL RUNNERS.

For Grain Drills. Sheared accurately to pattern. (See "Runner Steel.")

DRILL SPRINGS.

Any pattern made to order.

(See "Springs.")



DRAG TEETH (Harrow Teeth).

Plain or Headed.

$\frac{1}{2}$ to $1\frac{1}{8}$ -inch square with hammered points, any lengths.

$\frac{1}{2}$ to 1-inch round with hammered points, any lengths.

Diamond section with hammered or cut points, $\frac{3}{4}$ -inch x $\frac{1}{2}$ -inch; $\frac{3}{4}$ -inch x $\frac{5}{8}$ -inch; $\frac{7}{8}$ -inch x $\frac{5}{8}$ -inch; $1\frac{1}{8}$ -inch x $\frac{5}{8}$ -inch and $1\frac{1}{4}$ -inch x $\frac{5}{8}$ -inch. Any lengths.

Special patterns made to order.

All inquiries and orders should specify shape, size, length and thickness, style of point and whether plain or headed.



DRAG HARROW TEETH.Approximate Size, $\frac{1}{4}$ 

1



2



3



4



5



6



7



8

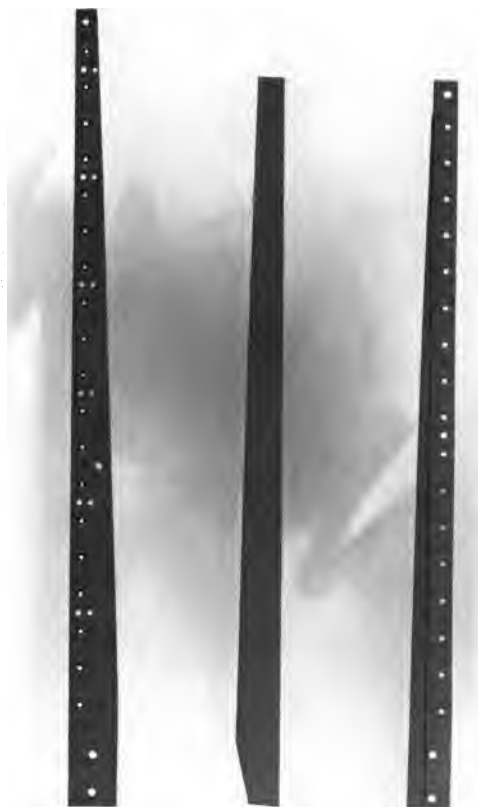
FINGER BARS.

We have special equipment for making finished finger bars, plain or beveled, flat or reinforced, drilled, punched, straightened, tested and inspected.

FINGER BAR BLANKS.

In the rough for export trade, of any desired section, taper and length and of guaranteed quality.



FINGER BARS.Approximate Size, $\frac{1}{16}$ 

1

2

3

GRAIN DRILL STEEL.

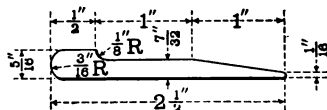
(See "Bevel Edge Steel," and "Runner Steel.")

HARROW TOOTH STEEL.

Diamond Shapes, $\frac{3}{4} \times \frac{1}{2}$ inch; $\frac{3}{4} \times \frac{5}{8}$ inch; $\frac{7}{8} \times \frac{5}{8}$ inch; $\frac{15}{16} \times \frac{5}{8}$ inch; $1\frac{1}{4} \times \frac{5}{8}$ inch. Round bars, $\frac{3}{8}$ inch to 1 inch; Square bars, $\frac{3}{8}$ inch to $1\frac{1}{4}$ inch; other sizes rolled to order.

HARROW TEETH.

(See "Drag Teeth" and "Spring Harrow Teeth.")

HEEL SWEEP BAR.

M-363.

1.75 Lbs. per Ft.

HOE STEEL.

$2\frac{1}{2}$ to $5\frac{1}{2} \times \frac{5}{16}$ to $\frac{5}{8}$ inches.

Round or square edge bars of tough steel that will not crack on the edge when being plated out thin; and so soft that it will allow the eye to be drawn easily; and yet so high in temper that it will harden, carry its edge, and be stiff.

HOE POINT STEEL (BEVELED).

$1\frac{1}{8}$ to $2 \times \frac{1}{4}$ to $\frac{3}{8}$ inches.

Furnished of same grades as flat Hoe Steel.

I-BAR

See "Cylinder Knife Bar."

KNIFE BACKS.

No. 13 Gauge and thicker, of special stock made expressly for this purpose. Hot rolled smooth finish or cold rolled accurately to size, quality always uniform. Every back is straightened by hand and correctness is guaranteed.

LAY STEEL.

1 inch to 3 inches wide, $\frac{3}{8}$ inch to $\frac{3}{4}$ inch thick.
Rolled and Hammered.

PLOW STEEL.

“Penn” and “Pernot” Brands Plow Steel.

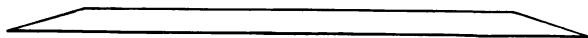
Open Hearth Plow Steel.

All made with smooth finish, tough and hard.

Slabs, 2 inches to 20 inches wide x $\frac{3}{16}$ inch to $\frac{5}{8}$ inch thick.

CRUCIBLE ANALYSIS PLOW STEEL.

This grade is made in the above sizes and is equal to the best crucible cast steel for this purpose; takes a high temper and beautiful finish.

DOUBLE BEVELED PLOW STEEL.

Bevels 1 inch wide.

Sizes—Inches

$6\frac{3}{8} \times \frac{5}{16}$	$8\frac{1}{2} \times \frac{5}{16}$	$9 \times \frac{1}{4}$	$9 \times \frac{5}{16}$	$10 \times \frac{1}{4}$
$10 \times \frac{5}{16}$	$10 \times \frac{3}{8}$	$11 \times \frac{1}{4}$	$11 \times \frac{5}{16}$	

(See “Bevel Edge Steel.”)

We guarantee all our Plow Steel to be made of new, clean stock, free from flaws or imperfections and suitable for the purpose for which it is sold.

We use no rail ends, crops, scrap, or second-hand or inferior stock of any description.

PLOW SHAPES.

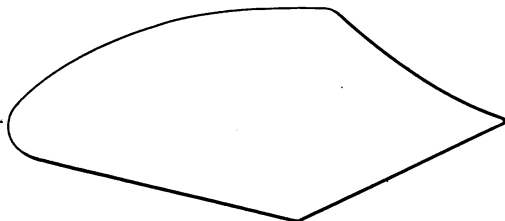
Flat Plow Shapes cut to any desired shape or pattern, from any of our brands or kinds of smooth finished steel. Well sheared, true to pattern and gauge.

The number and variety of flat plow shapes which we can make runs into the thousands, so that on the following pages we can only show a few representatives.



FLAT PLOW SHAPES.

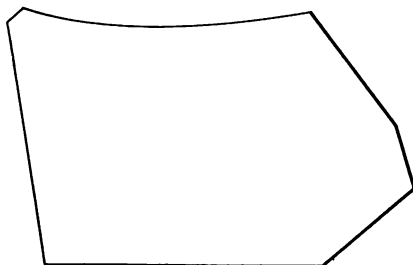
Approximate Scale, $\frac{1}{8}$



Regular Mould Board.



Breaker Mould Board.

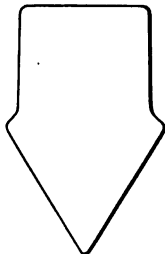
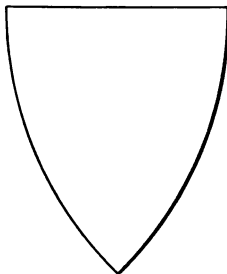


Frog.

Above shapes furnished in all sizes.

FLAT PLOW SHAPES.

(Continued)

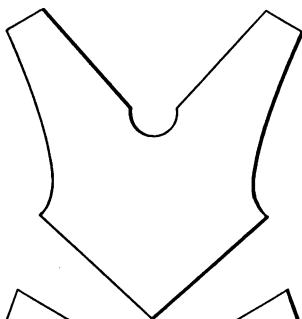
Approximate Scale, $\frac{1}{8}$ **Fin Cutter.****Bull Tongue.****Texas Wing Shovel.****Reversible
Diamond Point.****Round Shovel.**

Above shapes furnished in all sizes.

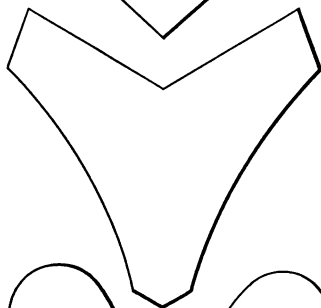
FLAT PLOW SHAPES.

(Continued)

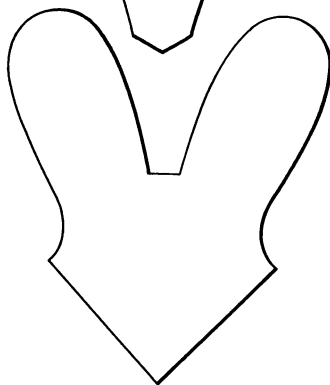
Approximate Scale, $\frac{1}{8}$



Furrower.



**"V"
Lister Share.**

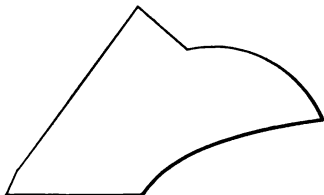
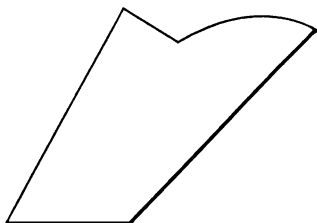
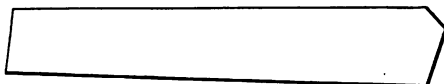
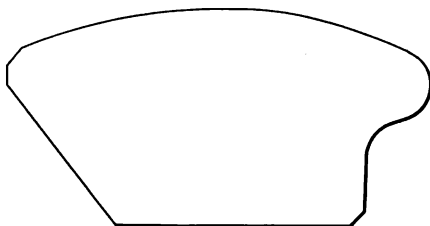


Burster Blade.

Above shapes furnished in all sizes.

FLAT PLOW SHAPES.

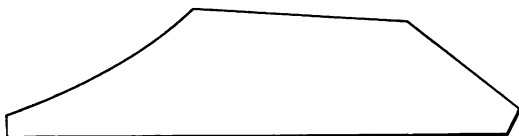
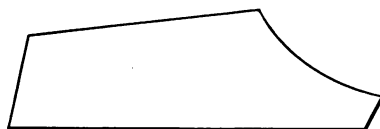
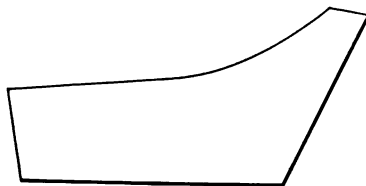
(Continued)

Approximate Scale, $\frac{1}{8}$ **Barber
Turn Shovel.****Taper
Turn Shovel.****Landside.****Frog.**

Above shapes furnished in all sizes.

FLAT PLOW SHAPES.

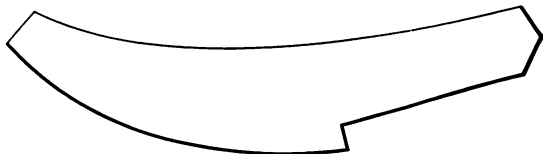
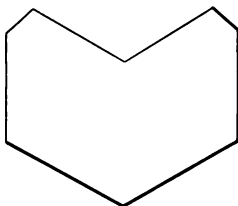
(Continued)

Approximate Scale, $\frac{1}{8}$ **Slant Cut Share.****Parallel Share.****Taper Share.****Horned Share.**

Above shapes furnished in all sizes.

FLAT PLOW SHAPES

(Continued)

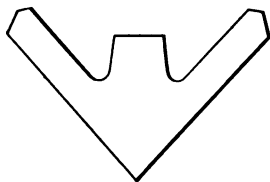
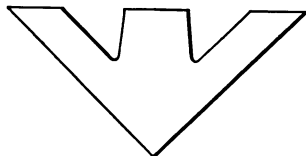
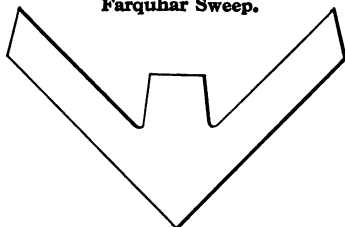
Approximate Scale, $\frac{1}{8}$ **Cow Horn Runner.****Center or Covering Sweep.**

Above shapes furnished in all sizes.



FLAT PLOW SHAPES.

(Continued)

Approximate Scale, $\frac{1}{16}$ **Selma Wing Sweep.****Farquhar Sweep.****Haiman-Dixon Sweep.****Orangeburg Sweep.**

Above shapes furnished in all sizes.

POST HOLE DIGGER BLADES.

Made to required pattern.

POTATO DIGGER TINES.

Made from $\frac{3}{8}$ -inch, $\frac{7}{8}$ -inch, $\frac{1}{2}$ -inch, $\frac{9}{16}$ -inch and $\frac{5}{8}$ -inch round spring steel with long taper, to $\frac{3}{16}$ -inch diameter at small ends; made with shoulder thread and nut, or without, if desired. Lengths as specified.

We can also furnish other styles, including those with special heads.



POTATO DIGGER TINES.Approximate Size. $\frac{1}{10}$

9



10



11



12



13



14



RAKE TEETH.

We make a specialty of rake teeth and have a large up-to-date shop equipped with apparatus and tools designed solely for this manufacture.

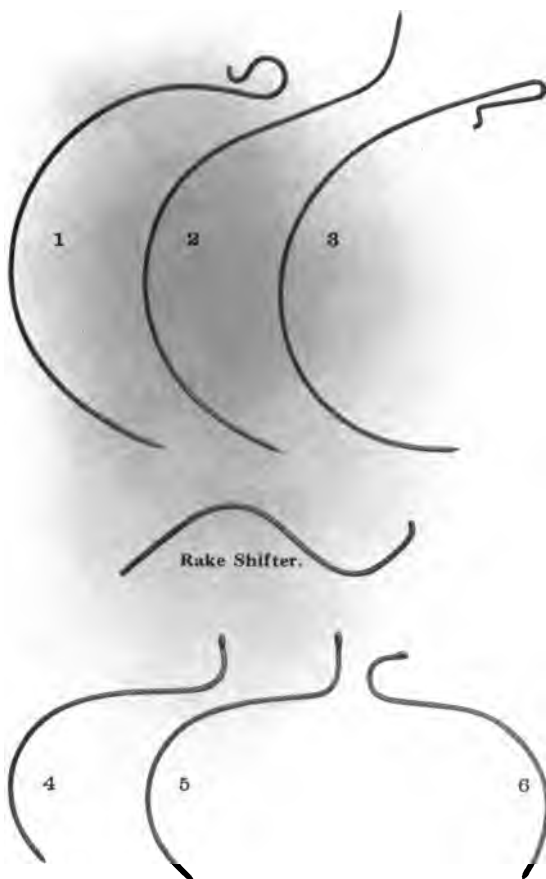
Our rake teeth are of unequalled quality and are made of any shape or style and warranted to stand the buyers' test.

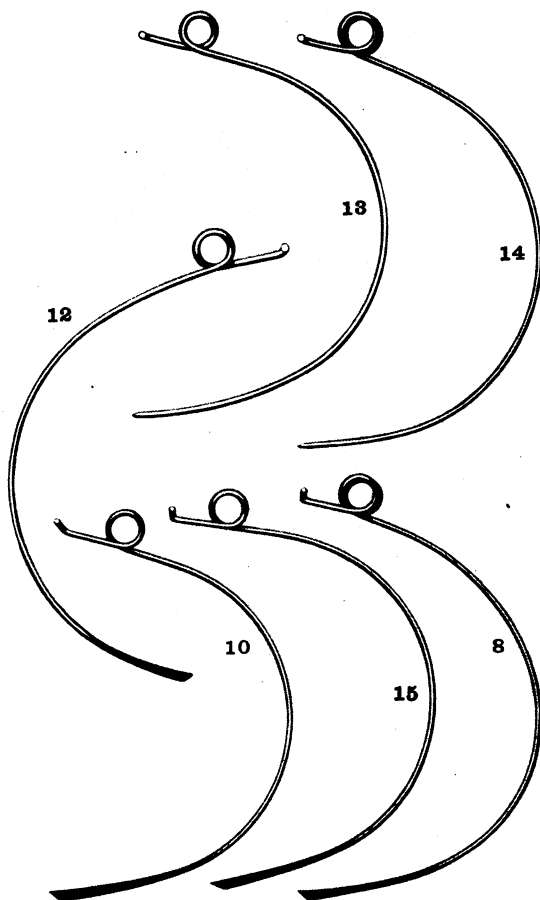
The following illustrations indicate only a few of the patterns of rake teeth made by us, as it is obviously impossible to show the many hundreds of styles which can be made.

We test every tooth separately by hand and all are carefully inspected before shipment.

We supply these teeth to most of the largest hay-rake manufacturers in the United States.



RAKE TEETH.Approximate Size, $\frac{1}{16}$ 

RAKE TEETH.Approximate Size, $\frac{1}{14}$ 

PRESSURE SPRINGS.

(See "Springs.")

RAKE STEEL.

Round or square, cut to specified lengths, for making hay rake teeth, etc. Warranted to be the highest quality for the purpose. Flat bars from which to make hand and garden rakes.

ROLLING COULTERS.

(See "Coulter Blades")

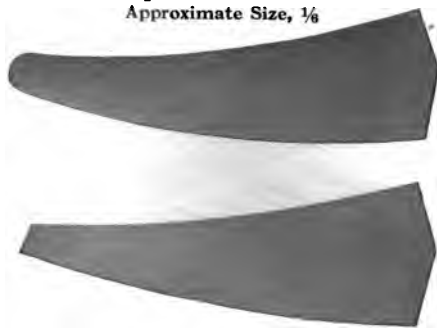
RUNNER STEEL.

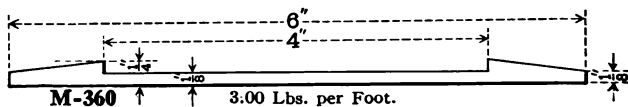
For Corn Planters, Grain Drills, etc., made from selected stock, furnished in bars from 3 inches to 8 inches wide by $\frac{1}{8}$ -inch to $\frac{1}{4}$ -inch thick, or other sizes, of Bessemer, Open Hearth or Crucible Analysis.

If desired, can furnish runners in flat shapes, sheared accurately to pattern.

Flat Shapes for Drill Runners.

Approximate Size, $\frac{1}{16}$



RUNNER STEEL.—(Continued)**Special Shape for Drill Runners.****SCYTHE BACK STEEL.**

$\frac{7}{8}$ to $1\frac{1}{4}$ x $\frac{1}{8}$ to $\frac{1}{4}$ inches.

Will weld perfectly and take a handsome polish.

SEATS.

(See "Agricultural Implement Seats.")

SEAT SPRINGS.

(See "Agricultural Seat Springs.")

SEAT SPRING STEEL.

2 to $3\frac{1}{2}$ inches wide by $\frac{1}{4}$ inch to $\frac{1}{2}$ inch wide.
Can be furnished punched or tapered, if desired.

SEEDER POINT STEEL.

In bars or cut to lengths, or sheared to pattern as desired.



SHAFT (AXLE) STEEL.

For agricultural machinery and implements of all kinds. Round bars $\frac{3}{8}$ -inch to $2\frac{1}{8}$ -inch diameter, of special "Smooth Finish," guaranteed not to vary more than $\frac{1}{4}$ inch from diameter specified. Shear or lathe cut to length, as ordered. In many instances this Shaft Steel has replaced Cold-Rolled Steel.

SKEIN-BLANK STEEL.

Furnished in sheets from No. 12 gauge to $\frac{5}{8}$ -inch thick, of any widths desired.

SKEIN-BLANKS.

Sheared accurately to pattern from the foregoing skein-blank steel which is selected soft stock adapted for welding.

**STALK-CUTTER KNIFE
STEEL.**

(See "Bevel-edge
Steel.")



SPRINGS.

Spring Scrapers for disk harrows and disk plows, suspension springs for cars, drill springs, pressure springs, leveler springs, bumper springs, cultivator springs for agricultural implements, etc.

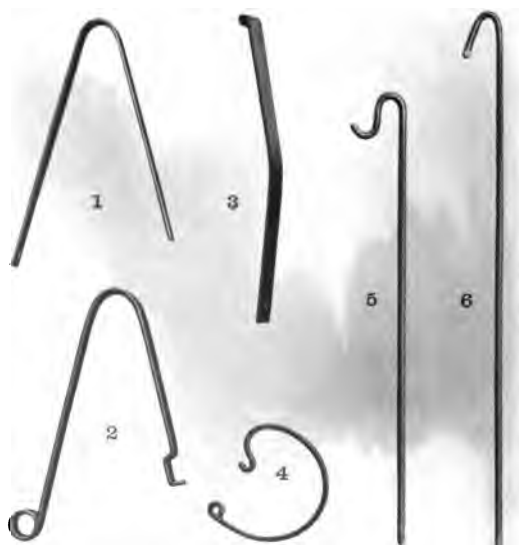
We can make any sizes or shapes of springs of the general character shown herein.

All our springs are made and formed carefully from our high-grade spring steel, oil tempered and tested. A few styles are shown below and on the following pages.

For other springs see "Agricultural Seat Springs" and "Springs," Section A.

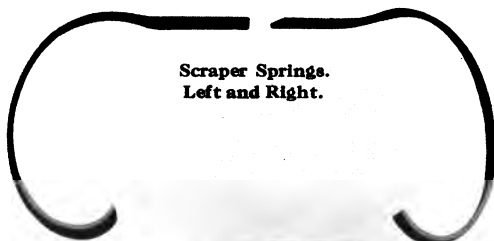
DRILL SPRINGS.

Approximate Size, $\frac{1}{12}$



SPRINGS.

Approximate Size, $\frac{1}{12}$



**Scrapper Springs.
Left and Right.**



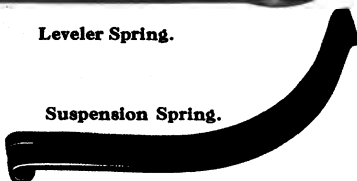
**Pressure Spring.
1**



**Pressure Spring.
2**



Leveler Spring.



Suspension Spring.



Cultivator Spring.

SPRING HARROW TEETH.

These spring harrow teeth have largely superseded the old-fashioned kinds, and are made with points forged thereon, or with separate bolted reversible points, and the heads or portions secured to the frame are properly shaped for any style of attachment desired.

All our Spring Harrow Teeth are accurately made on formers, oil tempered and tested. Made to any pattern desired.

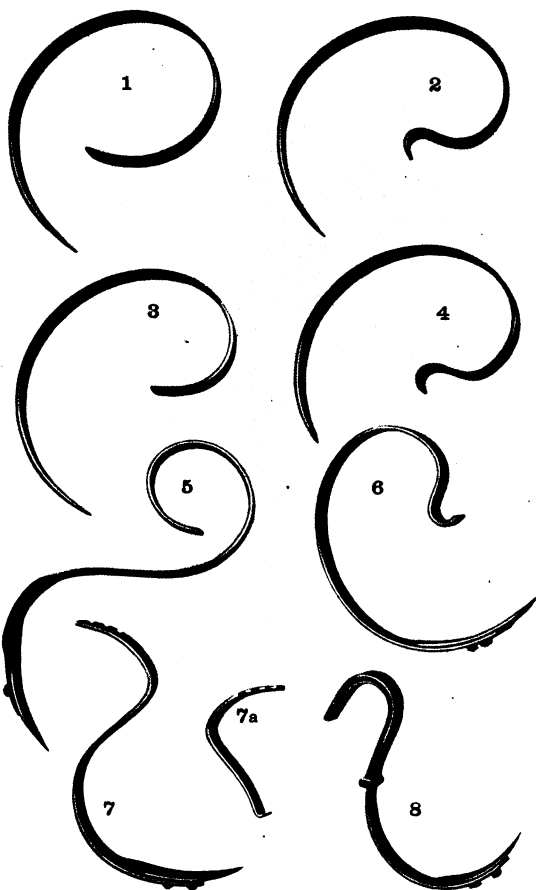
SPRING HARROW TOOTH STEEL.

In flat bars of multiple lengths or cut to short lengths as ordered.

Sizes $1\frac{1}{4}$ inches wide x $\frac{3}{16}$ -inch thick to $1\frac{3}{4}$ inches wide x $\frac{5}{16}$ -inch thick.



SPRING HARROW TEETH.

Approximate Size, $\frac{1}{12}$ 

SWEEPS.

**Flat Shapes cut to any pattern.
See "Plow Shapes."**

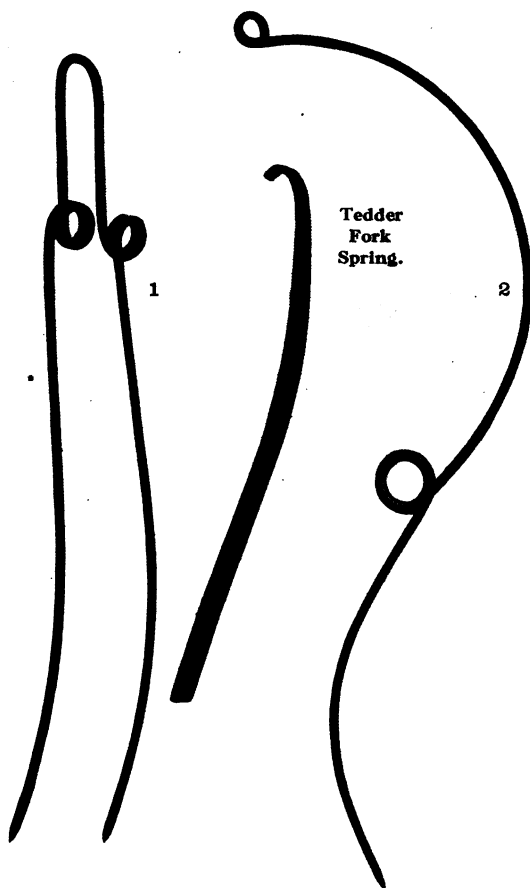
TEDDER FORKS.

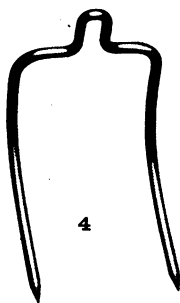
These are forks for mechanical operation on hay tedders, replacing manual labor. We make these tedder forks or teeth in many kinds and patterns to suit all makes of machines. As in the case of our similar products, these are all carefully shaped, pointed, oil tempered and tested.

TEDDER FORK SPRINGS.

Carefully made and accurately formed from our high-grade spring steel, oil tempered and tested. Any pattern.



TEDDER FORKS AND SPRING.Approximate Size, $\frac{1}{8}$ 

TEDDER TEETH.Approximate Size, $\frac{1}{8}$ 

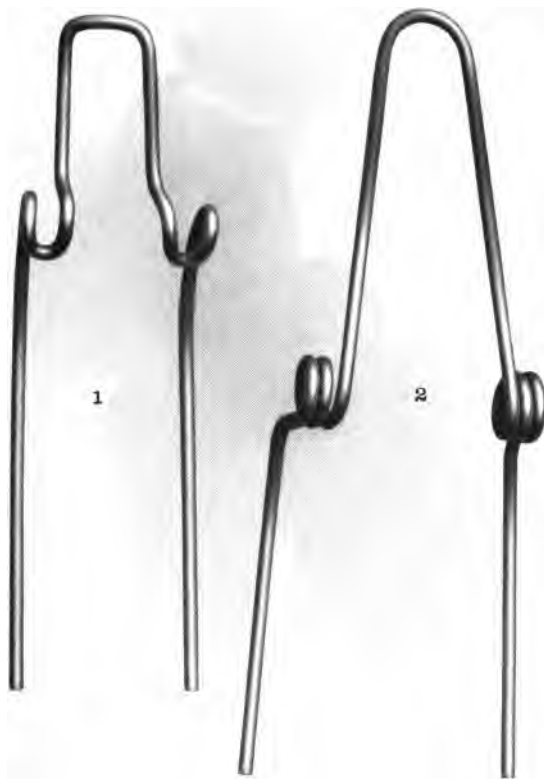
TIRE.

Steel Tire for Automobiles, Motor Trucks, Buggies, Wagons, Agricultural Machine and Implement Wheels.

See "Tire," "Tire-Concave" and "Channels-Tire."

TONGUE SUPPORTS.

Approximate Size, $\frac{1}{8}$



Tongue Supports are made in the above shapes or in any other style desired.

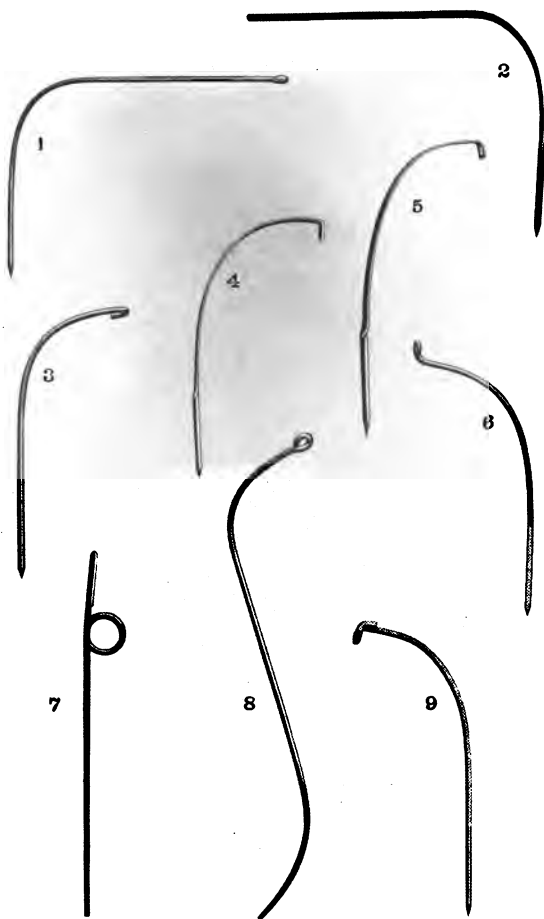
TINES.

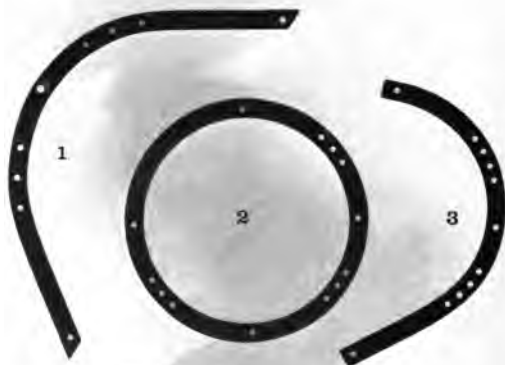
Made to pattern. All styles and sizes.
See "Potato Digger Tines."

WEEDER TEETH.

Our weeder teeth in general are made from flat spring steel with round shanks formed thereon, or from squares or rounds with shanks, as desired, and are carefully formed from a special grade of spring steel so tempered as to give the maximum amount of elasticity and resilience required for use intended.



WEEDER TEETH.Approximate Size, $\frac{1}{12}$ 

MISCELLANEOUS SHAPES.Approximate Size, $\frac{1}{12}$ 

Circles and Quarter Circles.



Harvester Knife.



Stalk Cutter Blade.

MISCELLANEOUS SHAPES.

Approximate Size, $\frac{1}{8}$



Tiling Spade Blades.



Potato Digger Shovel.

TABLES OF WEIGHTS.

SQUARE AND ROUND BARS.

FLATS.

BANDS.

ROUND EDGE TIRE.

Per Foot and Per Set.

GAUGE TABLES.

Weights and Thicknesses for Various
Gauges.

MENSURATION.

Simple Rules and Formulæ.

**TABLES AND CONVERSION FAC-
TORS FOR METRIC EQUIVALENTS.**

WEIGHTS OF SQUARE AND ROUND BARS.

POUNDS PER LINEAL FOOT.

One cubic foot of steel weighs 489.6 Pounds.

Thickness or Diameter in Inches	Weight of ■ Bar One Foot Long	Weight of ● Bar One Foot Long	Thickness or Diameter in Inches	Weight of ■ Bar One Foot Long	Weight of ● Bar One Foot Long
$\frac{1}{16}$	.013	.010	$\frac{9}{16}$	1.076	.845
$\frac{3}{16}$	.021	.016	$\frac{7}{8}$	1.136	.893
$\frac{1}{4}$	.030	.023	$\frac{1}{8}$	1.199	.941
$\frac{5}{16}$	.041	.032	$\frac{3}{4}$	1.263	.992
$\frac{3}{8}$	.053	.042	$\frac{1}{2}$	1.328	1.043
$\frac{7}{16}$	.067	.053	$\frac{1}{4}$	1.395	1.096
$\frac{1}{2}$	.083	.065	$\frac{3}{8}$	1.464	1.150
$\frac{9}{16}$	.100	.079	$\frac{1}{4}$	1.535	1.205
$\frac{5}{8}$	.120	.094	$\frac{1}{2}$	1.607	1.262
$\frac{3}{4}$	.140	.110	$\frac{1}{8}$	1.681	1.320
$\frac{7}{8}$	.163	.128	$\frac{1}{4}$	1.756	1.380
$\frac{1}{8}$	.187	.147	$\frac{3}{8}$	1.834	1.440
$\frac{1}{4}$	.212	.167	$\frac{1}{2}$	1.913	1.502
$\frac{3}{8}$	.240	.188	$\frac{3}{4}$	2.245	1.763
$\frac{1}{2}$	.269	.211	$\frac{1}{8}$	2.603	2.044
$\frac{5}{8}$	.300	.235	$\frac{1}{4}$	2.988	2.347
$\frac{3}{4}$	.332	.261	1	3.400	2.670
$\frac{7}{8}$	.366	.288	$\frac{1}{16}$	3.838	3.015
$\frac{1}{8}$	.402	.316	$\frac{1}{8}$	4.303	3.380
$\frac{1}{4}$	.439	.345	$\frac{1}{4}$	4.795	3.766
$\frac{3}{8}$	.478	.376	$\frac{1}{2}$	5.313	4.172
$\frac{1}{2}$	.519	.407	$\frac{3}{8}$	5.857	4.600
$\frac{5}{8}$	.561	.441	$\frac{1}{8}$	6.428	5.049
$\frac{3}{4}$	.605	.475	$\frac{1}{4}$	7.026	5.518
$\frac{7}{8}$	.651	.511	$\frac{1}{2}$	7.650	6.008
$\frac{1}{8}$	.698	.548	$\frac{3}{8}$	8.301	6.519
$\frac{1}{4}$	.747	.587	$\frac{1}{8}$	8.978	7.051
$\frac{3}{8}$	.798	.627	$\frac{1}{4}$	9.682	7.604
$\frac{1}{2}$	.850	.668	$\frac{1}{2}$	10.41	8.178
$\frac{5}{8}$	.904	.710	$\frac{3}{4}$	11.17	8.773
$\frac{3}{4}$	.960	.754	$\frac{1}{8}$	11.95	9.388
$\frac{7}{8}$	1.017	.799	$\frac{1}{4}$	12.76	10.02

WEIGHTS OF SQUARE AND ROUND BARS.

POUNDS PER LINEAL FOOT.

(Continued)

Thickness or Diameter in Inches	Weight of ■ Bar One Foot Long	Weight of ● Bar One Foot Long	Thickness or Diameter in Inches	Weight of ■ Bar One Foot Long	Weight of ● Bar One Foot Long
2	13.60	10.68	4	54.40	42.73
$\frac{1}{16}$	14.46	11.36	$\frac{1}{16}$	56.11	44.07
$\frac{1}{8}$	15.35	12.06	$\frac{1}{8}$	57.85	45.44
$\frac{1}{4}$	16.27	12.78	$\frac{1}{4}$	59.62	46.83
$\frac{3}{16}$	17.21	13.52	$\frac{3}{16}$	61.41	48.24
$\frac{1}{2}$	18.18	14.28	$\frac{1}{2}$	63.23	49.66
$\frac{5}{16}$	19.18	15.06	$\frac{5}{16}$	65.08	51.11
$\frac{3}{4}$	20.20	15.87	$\frac{3}{4}$	66.95	52.58
$\frac{7}{16}$	21.25	16.69	$\frac{7}{16}$	68.85	54.07
$\frac{1}{2}$	22.33	17.53	$\frac{1}{2}$	70.78	55.59
$\frac{9}{16}$	23.43	18.40	$\frac{9}{16}$	72.73	57.12
$\frac{5}{8}$	24.56	19.29	$\frac{5}{8}$	74.71	58.67
$\frac{3}{4}$	25.71	20.19	$\frac{3}{4}$	76.71	60.25
$\frac{7}{8}$	26.90	21.12	$\frac{7}{8}$	78.74	61.85
$\frac{1}{2}$	28.10	22.07	$\frac{1}{2}$	80.80	63.46
$\frac{1}{16}$	29.34	23.04	$\frac{1}{16}$	82.89	65.10
3	30.60	24.03	5	85.00	66.76
$\frac{1}{16}$	31.89	25.05	$\frac{1}{16}$	87.14	68.44
$\frac{1}{8}$	33.20	26.08	$\frac{1}{8}$	89.30	70.14
$\frac{1}{4}$	34.55	27.13	$\frac{1}{4}$	91.49	71.86
$\frac{3}{16}$	35.92	28.21	$\frac{3}{16}$	93.71	73.60
$\frac{1}{2}$	37.31	29.30	$\frac{1}{2}$	95.96	75.37
$\frac{5}{16}$	38.73	30.42	$\frac{5}{16}$	98.23	77.15
$\frac{3}{4}$	40.18	31.55	$\frac{3}{4}$	100.5	78.95
$\frac{7}{16}$	41.65	32.71	$\frac{7}{16}$	102.9	80.78
$\frac{1}{2}$	43.15	33.89	$\frac{1}{2}$	105.2	82.62
$\frac{9}{16}$	44.68	35.09	$\frac{9}{16}$	107.6	84.49
$\frac{5}{8}$	46.23	36.31	$\frac{5}{8}$	110.0	86.38
$\frac{3}{4}$	47.82	37.55	$\frac{3}{4}$	112.4	88.29
$\frac{7}{8}$	49.42	38.81	$\frac{7}{8}$	114.9	90.22
$\frac{1}{2}$	51.05	40.10	$\frac{1}{2}$	117.4	92.17
$\frac{1}{16}$	52.71	41.40	$\frac{1}{16}$	119.9	94.14

WEIGHTS OF SQUARE AND ROUND BARS.

POUNDS PER LINEAL FOOT.

(Continued)

Thickness or Diameter in Inches	Weight of ■ Bar One Foot Long	Weight of ● Bar One Foot Long	Thickness or Diameter in Inches	Weight of ■ Bar One Foot Long	Weight of ● Bar One Foot Long
6	122.4	96.13	8	217.6	170.9
$\frac{1}{16}$	125.0	98.15	$\frac{1}{16}$	221.0	173.6
$\frac{1}{8}$	127.6	100.2	$\frac{1}{8}$	224.5	176.3
$\frac{3}{16}$	130.2	102.2	$\frac{3}{16}$	227.9	179.0
$\frac{1}{4}$	132.8	104.3	$\frac{1}{4}$	231.4	181.8
$\frac{5}{16}$	135.5	106.4	$\frac{5}{16}$	234.9	184.5
$\frac{3}{8}$	138.2	108.5	$\frac{3}{8}$	238.5	187.3
$\frac{7}{16}$	140.9	110.7	$\frac{7}{16}$	242.1	190.1
$\frac{1}{2}$	143.7	112.8	$\frac{1}{2}$	245.7	192.9
$\frac{9}{16}$	146.5	115.0	$\frac{9}{16}$	249.3	195.8
$\frac{5}{8}$	149.2	117.2	$\frac{5}{8}$	252.9	198.6
$\frac{11}{16}$	152.1	119.4	$\frac{11}{16}$	256.6	201.5
$\frac{3}{4}$	154.9	121.7	$\frac{3}{4}$	260.3	204.4
$\frac{13}{16}$	157.8	123.9	$\frac{13}{16}$	264.0	207.4
$\frac{7}{8}$	160.7	126.2	$\frac{7}{8}$	267.8	210.3
$\frac{15}{16}$	163.6	128.5	$\frac{15}{16}$	271.6	213.3
7	166.6	130.8	9	275.4	216.3
$\frac{1}{16}$	169.6	133.2	$\frac{1}{16}$	279.2	219.3
$\frac{1}{8}$	172.6	135.6	$\frac{1}{8}$	283.1	222.3
$\frac{3}{16}$	175.6	138.0	$\frac{3}{16}$	287.0	225.4
$\frac{1}{4}$	178.7	140.4	$\frac{1}{4}$	290.9	228.5
$\frac{5}{16}$	181.8	142.8	$\frac{5}{16}$	294.9	231.6
$\frac{3}{8}$	184.9	145.2	$\frac{3}{8}$	298.8	234.7
$\frac{7}{16}$	188.1	147.7	$\frac{7}{16}$	302.8	237.8
$\frac{1}{2}$	191.3	150.2	$\frac{1}{2}$	306.9	241.0
$\frac{9}{16}$	194.5	152.7	$\frac{9}{16}$	310.9	244.2
$\frac{5}{8}$	197.7	155.3	$\frac{5}{8}$	315.0	247.4
$\frac{11}{16}$	200.9	157.8	$\frac{11}{16}$	319.1	250.6
$\frac{3}{4}$	204.2	160.4	$\frac{3}{4}$	323.2	253.8
$\frac{13}{16}$	207.5	163.0	$\frac{13}{16}$	327.4	257.1
$\frac{7}{8}$	210.9	165.6	$\frac{7}{8}$	331.6	260.4
$\frac{15}{16}$	214.2	168.2	$\frac{15}{16}$	335.8	263.7

WEIGHTS OF SQUARE AND ROUND BARS.**POUNDS PER LINEAL FOOT.****(Concluded)**

Thickness or Diameter in Inches	Weight of ■ Bar One Foot Long	Weight of ● Bar One Foot Long	Thickness or Diameter in Inches	Weight of ■ Bar One Foot Long	Weight of ● Bar One Foot Long
10	340.0	267.0	12	489.6	384.5
$\frac{1}{16}$	344.3	270.4	$\frac{1}{16}$	499.8	392.5
$\frac{1}{8}$	348.6	273.8	$\frac{1}{8}$	510.2	400.7
$\frac{3}{16}$	352.9	277.1	$\frac{3}{16}$	520.7	409.0
$\frac{1}{4}$	357.2	280.6	$\frac{1}{2}$	531.2	417.2
$\frac{5}{16}$	361.6	284.0	$\frac{5}{16}$	541.9	425.6
$\frac{3}{8}$	366.0	287.4	$\frac{3}{8}$	552.7	434.0
$\frac{7}{16}$	370.4	290.9	$\frac{7}{16}$	563.5	442.6
$\frac{1}{2}$	374.9	294.4	13	574.6	451.2
$\frac{5}{8}$	379.3	297.9	$\frac{1}{16}$	585.7	460.0
$\frac{3}{4}$	383.8	301.5	$\frac{1}{8}$	596.9	468.7
$\frac{7}{8}$	388.4	305.0	$\frac{3}{16}$	608.2	477.6
$\frac{1}{16}$	392.9	308.6	$\frac{1}{2}$	619.6	486.6
$\frac{1}{8}$	397.5	312.2	$\frac{5}{16}$	631.1	495.7
$\frac{3}{8}$	402.1	315.8	$\frac{3}{8}$	642.7	504.8
$\frac{7}{8}$	406.7	319.5	$\frac{7}{8}$	654.5	514.1
11	411.4	323.1	14	666.4	523.4
$\frac{1}{16}$	416.1	326.8	$\frac{1}{16}$	678.4	532.7
$\frac{1}{8}$	420.8	330.5	$\frac{1}{8}$	690.4	542.2
$\frac{3}{16}$	425.5	334.3	$\frac{3}{16}$	702.5	551.8
$\frac{1}{4}$	430.3	338.0	$\frac{1}{2}$	714.8	561.4
$\frac{5}{16}$	435.1	341.7	$\frac{5}{16}$	727.2	571.1
$\frac{3}{8}$	439.9	345.5	$\frac{3}{8}$	739.7	580.9
$\frac{7}{16}$	444.8	349.3	$\frac{7}{16}$	752.3	590.8
$\frac{1}{2}$	449.7	353.2	15	765.0	600.7
$\frac{5}{8}$	454.6	357.0	$\frac{1}{16}$	777.7	610.8
$\frac{3}{4}$	459.5	360.9	$\frac{1}{8}$	790.7	621.0
$\frac{7}{8}$	464.4	364.8	$\frac{3}{16}$	803.6	631.2
$\frac{1}{16}$	469.4	368.7	$\frac{1}{2}$	816.8	641.5
$\frac{1}{8}$	474.4	372.6	$\frac{5}{16}$	830.0	651.8
$\frac{3}{8}$	479.5	376.6	$\frac{3}{8}$	843.4	662.4
$\frac{7}{8}$	484.5	380.5	$\frac{7}{8}$	856.8	673.0

WEIGHTS OF FLAT ROLLED STEEL BARS.**POUNDS PER LINEAL FOOT.**

One cubic foot of steel weighs 489.6 pounds.

For thicknesses from $\frac{1}{8}$ inch to $\frac{1}{2}$ inch and widths from $\frac{1}{2}$ inch to 1 inch.

Thickness in inches	$\frac{1}{4}$ "	$\frac{1}{2}$ "	$\frac{3}{4}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "
$\frac{1}{8}$	.053	.056	.060	.063	.066	.070	.073	.076	.080
$\frac{1}{4}$	.066	.071	.075	.079	.083	.087	.091	.095	.100
$\frac{3}{8}$	.080	.085	.090	.095	.100	.105	.110	.115	.120
$\frac{1}{2}$	.093	.099	.105	.110	.116	.122	.128	.134	.139
$\frac{1}{2}$	.106	.113	.120	.126	.133	.139	.146	.153	.159
$\frac{3}{4}$	.120	.127	.134	.142	.149	.157	.164	.172	.179
$\frac{1}{2}$	.133	.141	.149	.158	.166	.174	.183	.191	.199
$\frac{1}{2}$	.146	.155	.164	.173	.183	.192	.201	.210	.219
$\frac{1}{2}$	.159	.169	.179	.189	.199	.209	.219	.229	.239
$\frac{1}{2}$	.173	.183	.194	.205	.216	.227	.237	.248	.259
$\frac{1}{2}$	.186	.198	.209	.221	.232	.244	.256	.267	.279
$\frac{1}{2}$	.199	.212	.224	.237	.249	.261	.274	.286	.299
$\frac{1}{2}$	.213	.226	.239	.252	.266	.279	.292	.305	.319
$\frac{1}{2}$	.226	.240	.254	.268	.282	.296	.310	.325	.339
$\frac{1}{2}$	.239	.254	.269	.284	.299	.314	.329	.344	.359
$\frac{1}{2}$	.252	.268	.284	.300	.315	.331	.347	.363	.379
$\frac{1}{2}$	.266	.282	.299	.315	.332	.349	.365	.382	.398
$\frac{1}{2}$	.279	.296	.314	.331	.349	.366	.383	.401	.418
$\frac{1}{2}$	.292	.310	.329	.347	.365	.383	.402	.420	.438
$\frac{1}{2}$	.305	.325	.344	.363	.382	.401	.420	.439	.458
$\frac{1}{2}$	.319	.339	.359	.379	.398	.418	.438	.458	.478
$\frac{1}{2}$	.332	.353	.374	.394	.415	.436	.457	.477	.498
$\frac{1}{2}$	.345	.367	.388	.410	.432	.453	.475	.496	.518
$\frac{1}{2}$	.359	.381	.403	.426	.448	.471	.493	.515	.538
$\frac{1}{2}$	.372	.395	.418	.442	.465	.488	.511	.535	.558
$\frac{1}{2}$	.385	.409	.433	.457	.481	.506	.530	.554	.578
$\frac{1}{2}$	.398	.423	.448	.473	.498	.523	.548	.573	.598
$\frac{1}{2}$	.412	.437	.463	.489	.515	.540	.566	.592	.618
$\frac{1}{2}$	.425	.452	.478	.505	.531	.558	.584	.611	.638
$\frac{1}{2}$	.438	.466	.493	.520	.548	.575	.603	.630	.657
$\frac{1}{2}$	.452	.480	.508	.536	.564	.593	.621	.649	.677
$\frac{1}{2}$	.465	.494	.523	.552	.581	.610	.639	.668	.697
$\frac{1}{2}$	.478	.508	.538	.567	.598	.628	.657	.687	.717

WEIGHTS OF FLAT ROLLED STEEL BARS.

POUNDS PER LINEAL FOOT.

(Continued)

Thickness in Inches	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{7}{8}$ "	$1\frac{1}{8}$ "	$1\frac{1}{2}$ "	$1\frac{3}{4}$ "	2 "	$2\frac{1}{2}$ "
$\frac{1}{16}$	.083	.086	.090	.093	.096	.100	.103	.106	2.55
$\frac{3}{16}$	.104	.108	.112	.116	.120	.125	.129	.133	3.19
$\frac{1}{4}$	.125	.129	.134	.139	.144	.149	.154	.159	3.83
$\frac{5}{16}$	.145	.151	.157	.163	.169	.174	.180	.186	4.46
$\frac{3}{8}$	.166	.173	.179	.186	.193	.199	.206	.212	5.10
$\frac{7}{16}$	.187	.194	.202	.209	.217	.224	.232	.239	5.74
$\frac{1}{2}$	.208	.216	.224	.232	.241	.249	.257	.266	6.38
$\frac{5}{8}$	.228	.237	.247	.256	.265	.274	.283	.292	7.01
$\frac{3}{4}$	.249	.259	.269	.279	.289	.299	.309	.319	7.65
$\frac{7}{8}$	.270	.281	.291	.302	.313	.324	.335	.345	8.29
$1\frac{1}{8}$	.291	.302	.314	.325	.337	.349	.360	.372	8.93
$1\frac{1}{4}$	.311	.324	.336	.349	.361	.374	.386	.398	9.56
$1\frac{1}{2}$	.332	.345	.359	.372	.385	.398	.412	.425	10.20
$1\frac{3}{8}$	.353	.367	.381	.395	.409	.423	.437	.452	10.84
$1\frac{1}{2}$	.374	.388	.403	.418	.433	.448	.463	.478	11.48
$1\frac{5}{8}$	.394	.410	.426	.442	.457	.473	.489	.505	12.11
$1\frac{3}{4}$	.415	.432	.448	.465	.481	.498	.515	.531	12.75
$1\frac{7}{8}$	.436	.453	.471	.488	.506	.523	.540	.558	13.39
2	.457	.475	.493	.511	.530	.548	.566	.584	14.03
$2\frac{1}{8}$	.477	.496	.515	.535	.554	.573	.592	.611	14.66
$2\frac{1}{4}$	.498	.518	.538	.558	.578	.598	.618	.638	15.30
$2\frac{1}{2}$	.519	.540	.560	.581	.602	.623	.643	.664	15.94
$2\frac{3}{8}$	.540	.561	.583	.604	.626	.647	.669	.691	16.58
$2\frac{1}{2}$	.560	.583	.605	.628	.650	.672	.695	.717	17.21
$2\frac{7}{8}$	.581	.604	.628	.651	.674	.697	.721	.744	17.85
3	.602	.626	.650	.674	.698	.722	.746	.770	18.49
$3\frac{1}{8}$	.623	.647	.672	.697	.722	.747	.772	.797	19.13
$3\frac{1}{4}$	.643	.669	.695	.721	.746	.772	.798	.823	19.76
$3\frac{1}{2}$	.664	.691	.717	.744	.770	.797	.823	.850	20.40
$3\frac{3}{8}$	.685	.712	.740	.767	.794	.822	.849	.877	21.04
$3\frac{1}{2}$	.706	.734	.762	.790	.818	.847	.875	.903	21.68
$3\frac{5}{8}$	.726	.755	.784	.813	.843	.872	.901	.930	22.31
$3\frac{3}{4}$	.747	.777	.807	.837	.867	.896	.926	.956	22.95

WEIGHTS OF FLAT ROLLED STEEL BARS.

POUNDS PER LINEAL FOOT.

(Continued)

Thickness in Inches	$\frac{1}{8}$ "	$\frac{1}{4}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	1"	1 1/2"
$\frac{1}{8}$ "	.110	.113	.116	.120	.123	.126	.129	.133	2.55
$\frac{1}{4}$ "	.137	.141	.145	.149	.154	.158	.162	.166	3.19
$\frac{3}{8}$ "	.164	.169	.174	.179	.184	.189	.194	.199	3.83
$\frac{1}{2}$ "	.192	.198	.203	.209	.215	.221	.227	.232	4.46
$\frac{5}{8}$ "	.219	.226	.232	.239	.246	.252	.259	.266	5.10
$\frac{3}{4}$ "	.247	.254	.261	.269	.276	.284	.291	.299	5.74
$\frac{7}{8}$ "	.274	.282	.291	.299	.307	.315	.324	.332	6.38
1"	.301	.310	.320	.329	.338	.347	.356	.365	7.01
$1\frac{1}{8}$ "	.329	.339	.349	.359	.369	.379	.388	.398	7.65
$1\frac{1}{4}$ "	.356	.367	.378	.388	.399	.410	.421	.432	8.29
$1\frac{3}{8}$ "	.383	.395	.407	.418	.430	.442	.453	.465	8.93
$1\frac{1}{2}$ "	.411	.423	.436	.448	.461	.473	.486	.498	9.56
$1\frac{3}{4}$ "	.438	.452	.465	.478	.491	.505	.518	.531	10.20
$1\frac{7}{8}$ "	.466	.480	.494	.508	.522	.536	.550	.564	10.84
2"	.493	.508	.523	.538	.553	.568	.583	.598	11.48
$2\frac{1}{8}$ "	.520	.536	.552	.568	.584	.599	.615	.631	12.11
$2\frac{1}{4}$ "	.548	.564	.581	.598	.614	.631	.647	.664	12.75
$2\frac{3}{8}$ "	.575	.593	.610	.628	.645	.662	.680	.697	13.39
$2\frac{1}{2}$ "	.603	.621	.639	.657	.676	.694	.712	.730	14.03
$2\frac{7}{8}$ "	.630	.649	.668	.687	.706	.725	.745	.764	14.66
$3\frac{1}{8}$ "	.657	.677	.697	.717	.737	.757	.777	.797	15.30
$3\frac{1}{4}$ "	.685	.706	.726	.747	.768	.789	.809	.830	15.94
$3\frac{3}{8}$ "	.712	.734	.755	.777	.799	.820	.842	.863	16.58
$3\frac{1}{2}$ "	.740	.762	.784	.807	.829	.852	.874	.896	17.21
$3\frac{7}{8}$ "	.767	.790	.813	.837	.860	.883	.906	.930	17.85
$4\frac{1}{8}$ "	.794	.818	.843	.867	.891	.915	.939	.963	18.49
$4\frac{1}{4}$ "	.822	.847	.872	.896	.921	.946	.971	.996	19.13
$4\frac{3}{8}$ "	.849	.875	.901	.926	.952	.978	1.00	1.03	19.76
$4\frac{1}{2}$ "	.877	.903	.930	.956	.983	1.01	1.04	1.06	20.40
$4\frac{7}{8}$ "	.904	.931	.959	.986	1.01	1.04	1.07	1.10	21.04
$5\frac{1}{8}$ "	.931	.960	.988	1.02	1.04	1.07	1.10	1.13	21.68
$5\frac{1}{4}$ "	.959	.988	1.02	1.05	1.07	1.10	1.13	1.16	22.31
$5\frac{3}{8}$ "	.986	1.02	1.05	1.08	1.11	1.14	1.17	1.20	22.95

WEIGHTS OF FLAT ROLLED STEEL BARS.

POUNDS PER LINEAL FOOT.

(Concluded)

Thickness in Inches	$\frac{1}{4}$ "	$\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	$1\frac{3}{4}$ "	2"	2"
$\frac{1}{8}$	.136	.139	.143	.146	.149	.153	.156	.159	2.55
$\frac{1}{4}$	.170	.174	.178	.183	.187	.191	.195	.199	3.19
$\frac{3}{8}$	.204	.209	.214	.219	.224	.229	.234	.239	3.83
$\frac{1}{2}$	.238	.244	.250	.256	.261	.267	.273	.279	4.46
$\frac{5}{8}$	.272	.279	.286	.292	.299	.305	.312	.319	5.10
$\frac{3}{4}$	.306	.314	.321	.329	.336	.344	.351	.359	5.74
$\frac{7}{8}$	.340	.349	.357	.365	.374	.382	.390	.398	6.38
1"	.374	.383	.393	.402	.411	.420	.429	.438	7.01
$1\frac{1}{8}$	.408	.418	.428	.438	.448	.458	.468	.478	7.65
$1\frac{1}{4}$	.442	.453	.464	.475	.486	.496	.507	.518	8.29
$1\frac{1}{2}$	.476	.488	.500	.511	.523	.535	.546	.558	8.93
$1\frac{3}{4}$	.510	.523	.535	.548	.560	.573	.585	.598	9.56
2"	.545	.558	.571	.584	.598	.611	.624	.638	10.20
$2\frac{1}{4}$	.579	.593	.607	.621	.635	.649	.663	.677	10.84
$2\frac{1}{2}$	.613	.628	.642	.657	.672	.687	.702	.717	11.48
$2\frac{3}{4}$	.647	.662	.678	.694	.710	.725	.741	.757	12.11
3"	.681	.697	.714	.730	.747	.764	.780	.797	12.75
$3\frac{1}{4}$	.715	.732	.750	.767	.784	.802	.819	.827	13.39
$3\frac{1}{2}$	.749	.767	.785	.804	.822	.840	.858	.877	14.03
$3\frac{3}{4}$	.783	.802	.821	.840	.859	.878	.897	.916	14.66
4"	.817	.837	.857	.877	.896	.916	.936	.956	15.30
$4\frac{1}{4}$	.851	.872	.892	.913	.934	.955	.975	.996	15.94
$4\frac{1}{2}$	.885	.906	.928	.950	.971	.993	1.01	1.04	16.58
$4\frac{3}{4}$	.919	.941	.964	.986	1.01	1.03	1.05	1.08	17.21
5"	.953	.976	.999	1.02	1.05	1.07	1.09	1.12	17.85
$5\frac{1}{4}$	.987	1.01	1.04	1.06	1.08	1.11	1.13	1.16	18.49
$5\frac{1}{2}$	1.02	1.05	1.07	1.10	1.12	1.15	1.17	1.20	19.13
$5\frac{3}{4}$	1.06	1.08	1.11	1.13	1.16	1.18	1.21	1.24	19.76
6"	1.09	1.12	1.14	1.17	1.20	1.22	1.25	1.28	20.40
$6\frac{1}{4}$	1.12	1.15	1.18	1.21	1.23	1.26	1.29	1.31	21.04
$6\frac{1}{2}$	1.16	1.19	1.21	1.24	1.27	1.30	1.33	1.35	21.68
$6\frac{3}{4}$	1.19	1.22	1.25	1.28	1.31	1.34	1.37	1.39	22.31
7"	1.23	1.26	1.28	1.31	1.34	1.37	1.40	1.43	22.95

WEIGHTS OF FLAT ROLLED STEEL BARS.

POUNDS PER LINEAL FOOT.

(Continued)

Thickness in Inches	$\frac{1}{8}$ "	$\frac{3}{16}$ "	$\frac{1}{4}$ "	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{7}{16}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	1"
$\frac{1}{16}$	.163	.166	.169	.173	.176	.179	.183	.186	2.55
$\frac{5}{64}$	.203	.208	.212	.216	.220	.224	.228	.232	3.19
$\frac{3}{32}$	.244	.249	.254	.259	.264	.269	.274	.279	3.83
$\frac{7}{64}$	.285	.291	.296	.302	.308	.314	.320	.325	4.46
$\frac{1}{8}$	.325	.332	.339	.345	.352	.359	.365	.372	5.10
$\frac{9}{64}$	.366	.374	.381	.388	.396	.403	.411	.418	5.74
$\frac{5}{32}$	.407	.415	.423	.432	.440	.448	.457	.465	6.38
$\frac{11}{64}$	.447	.457	.466	.475	.484	.493	.502	.511	7.01
$\frac{3}{16}$	.488	.498	.508	.518	.528	.538	.548	.558	7.65
$\frac{13}{64}$	.529	.540	.550	.561	.572	.583	.594	.604	8.29
$\frac{7}{32}$	.569	.581	.593	.604	.616	.628	.639	.651	8.93
$\frac{15}{64}$	.610	.623	.635	.647	.660	.672	.685	.697	9.56
$\frac{1}{4}$	.651	.664	.677	.691	.704	.717	.730	.744	10.20
$\frac{17}{64}$	.691	.706	.720	.734	.748	.762	.776	.790	10.84
$\frac{9}{32}$	.732	.747	.762	.777	.792	.807	.822	.837	11.48
$\frac{19}{64}$	.773	.789	.804	.820	.836	.852	.867	.883	12.11
$\frac{5}{16}$	.813	.830	.847	.863	.880	.897	.913	.930	12.75
$\frac{21}{64}$	.854	.872	.889	.906	.924	.941	.959	.976	13.39
$\frac{11}{32}$	.895	.913	.931	.950	.968	.986	1.00	1.02	14.03
$\frac{23}{64}$	.936	.955	.974	.993	1.01	1.03	1.05	1.07	14.66
$\frac{3}{8}$	.976	.996	1.02	1.04	1.06	1.08	1.10	1.12	15.30
$\frac{25}{64}$	1.02	1.04	1.06	1.08	1.10	1.12	1.14	1.16	15.94
$\frac{13}{32}$	1.06	1.08	1.10	1.12	1.14	1.17	1.19	1.21	16.58
$\frac{27}{64}$	1.10	1.12	1.14	1.17	1.19	1.21	1.23	1.26	17.21
$\frac{7}{16}$	1.14	1.16	1.19	1.21	1.23	1.26	1.28	1.30	17.85
$\frac{29}{64}$	1.18	1.20	1.23	1.25	1.28	1.30	1.32	1.35	18.49
$\frac{15}{32}$	1.22	1.25	1.27	1.30	1.32	1.35	1.37	1.40	19.13
$\frac{31}{64}$	1.26	1.29	1.31	1.34	1.36	1.39	1.42	1.44	19.76
$\frac{1}{2}$	1.30	1.33	1.35	1.38	1.41	1.43	1.46	1.49	20.40
$\frac{33}{64}$	1.34	1.37	1.40	1.42	1.45	1.48	1.51	1.53	21.04
$\frac{17}{32}$	1.38	1.41	1.44	1.47	1.50	1.52	1.55	1.58	21.68
$\frac{35}{64}$	1.42	1.45	1.48	1.51	1.54	1.57	1.60	1.63	22.31
$\frac{3}{4}$	1.46	1.49	1.52	1.55	1.58	1.61	1.64	1.67	22.95

WEIGHTS OF FLAT ROLLED STEEL BARS.

POUNDS PER LINEAL FOOT.

(Continued)

Thickness in Inches	$\frac{5}{16}$ "	$\frac{3}{8}$ "	$\frac{7}{16}$ "	$\frac{1}{2}$ "	$\frac{9}{16}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	12"
$\frac{1}{16}$	.189	.193	.196	.199	.203	.206	.209	.213	2.55
$\frac{5}{64}$	.237	.241	.245	.249	.253	.257	.262	.266	3.19
$\frac{3}{32}$	.284	.289	.294	.299	.304	.309	.314	.319	3.83
$\frac{7}{64}$	.331	.337	.343	.349	.354	.360	.366	.372	4.46
$\frac{1}{8}$	.379	.385	.392	.398	.405	.412	.418	.425	5.10
$\frac{9}{64}$	.426	.433	.441	.448	.456	.463	.471	.478	5.74
$\frac{5}{32}$	.473	.481	.490	.498	.506	.515	.523	.531	6.38
$\frac{11}{64}$	.520	.529	.538	.548	.557	.566	.575	.584	7.01
$\frac{3}{16}$	.568	.578	.588	.598	.608	.618	.628	.638	7.65
$\frac{13}{64}$	.615	.626	.637	.648	.658	.669	.680	.691	8.29
$\frac{7}{32}$	.662	.674	.686	.697	.709	.721	.732	.744	8.93
$\frac{15}{64}$	.710	.722	.735	.747	.760	.772	.784	.797	9.56
$\frac{1}{4}$	.757	.770	.784	.797	.810	.823	.837	.850	10.20
$\frac{17}{64}$	.804	.818	.833	.847	.861	.875	.889	.903	10.84
$\frac{9}{32}$	.852	.867	.882	.896	.911	.926	.941	.956	11.48
$\frac{19}{64}$	.899	.915	.931	.946	.962	.978	.994	1.01	12.11
$\frac{5}{16}$	.946	.963	.980	.996	1.01	1.03	1.05	1.06	12.75
$\frac{21}{64}$	.994	1.01	1.03	1.05	1.06	1.08	1.10	1.12	13.39
$\frac{11}{32}$	1.04	1.06	1.08	1.10	1.11	1.13	1.15	1.17	14.03
$\frac{23}{64}$	1.09	1.11	1.13	1.15	1.17	1.18	1.20	1.22	14.66
$\frac{3}{8}$	1.14	1.16	1.18	1.20	1.22	1.24	1.26	1.28	15.30
$\frac{25}{64}$	1.18	1.20	1.22	1.25	1.27	1.29	1.31	1.33	15.94
$\frac{13}{32}$	1.23	1.25	1.27	1.30	1.32	1.34	1.36	1.38	16.58
$\frac{27}{64}$	1.28	1.30	1.32	1.35	1.37	1.39	1.41	1.43	17.21
$\frac{7}{16}$	1.33	1.35	1.37	1.40	1.42	1.44	1.46	1.49	17.85
$\frac{29}{64}$	1.37	1.40	1.42	1.44	1.47	1.49	1.52	1.54	18.49
$\frac{15}{32}$	1.42	1.44	1.47	1.49	1.52	1.54	1.57	1.59	19.13
$\frac{31}{64}$	1.47	1.49	1.52	1.54	1.57	1.60	1.62	1.65	19.76
$\frac{1}{2}$	1.51	1.54	1.57	1.59	1.62	1.65	1.67	1.70	20.40
$\frac{33}{64}$	1.56	1.59	1.62	1.64	1.67	1.70	1.73	1.75	21.04
$\frac{17}{32}$	1.61	1.64	1.67	1.69	1.72	1.75	1.78	1.81	21.68
$\frac{35}{64}$	1.66	1.69	1.71	1.74	1.77	1.80	1.83	1.86	22.31
$\frac{37}{64}$	1.70	1.73	1.76	1.79	1.82	1.85	1.88	1.91	22.95

WEIGHTS OF FLAT ROLLED STEEL BARS.**POUNDS PER LINEAL FOOT.**

One cubic foot of steel weighs 489.6 pounds

For thicknesses from $\frac{3}{16}$ in. to 2 ins. and widths from
1 in. to 12 $\frac{1}{4}$ ins.

Thickness in inches	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "	2"	2 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	2 $\frac{3}{4}$ "	12"
$\frac{3}{16}$	.213	.266	.319	.372	.425	.478	.531	.584	2.55
$\frac{1}{8}$	.425	.531	.638	.744	.850	.956	1.06	1.17	5.10
$\frac{5}{16}$	.638	.797	.956	1.12	1.28	1.43	1.59	1.75	7.65
$\frac{3}{4}$	.850	1.06	1.28	1.49	1.70	1.91	2.13	2.34	10.20
$\frac{7}{8}$	1.06	1.33	1.59	1.86	2.13	2.39	2.66	2.92	12.75
$\frac{15}{16}$	1.28	1.59	1.91	2.23	2.55	2.87	3.19	3.51	15.30
$1\frac{1}{16}$	1.49	1.86	2.23	2.60	2.98	3.35	3.72	4.09	17.85
$1\frac{1}{8}$	1.70	2.13	2.55	2.98	3.40	3.83	4.25	4.68	20.40
$1\frac{1}{4}$	1.91	2.39	2.87	3.35	3.83	4.30	4.78	5.26	22.95
$1\frac{1}{2}$	2.13	2.66	3.19	3.72	4.25	4.78	5.31	5.84	25.50
$1\frac{3}{4}$	2.34	2.92	3.51	4.09	4.68	5.26	5.84	6.43	28.05
$1\frac{7}{8}$	2.55	3.19	3.83	4.46	5.10	5.74	6.38	7.01	30.60
$2\frac{1}{16}$	2.76	3.45	4.14	4.83	5.53	6.22	6.91	7.60	33.15
$2\frac{1}{8}$	2.98	3.72	4.46	5.21	5.95	6.69	7.44	8.18	35.70
$2\frac{1}{4}$	3.19	3.98	4.78	5.58	6.38	7.17	7.97	8.77	38.25
1	3.40	4.25	5.10	5.95	6.80	7.65	8.50	9.35	40.80
$1\frac{1}{16}$	3.61	4.52	5.42	6.32	7.23	8.13	9.03	9.93	43.35
$1\frac{1}{8}$	3.83	4.78	5.74	6.69	7.65	8.61	9.56	10.52	45.90
$1\frac{1}{4}$	4.04	5.05	6.06	7.07	8.08	9.08	10.09	11.10	48.45
$1\frac{3}{8}$	4.25	5.31	6.38	7.44	8.50	9.56	10.63	11.69	51.00
$1\frac{1}{2}$	4.46	5.58	6.69	7.81	8.93	10.04	11.16	12.27	53.55
$1\frac{3}{4}$	4.68	5.84	7.01	8.18	9.35	10.52	11.69	12.86	56.10
$1\frac{7}{8}$	4.89	6.11	7.33	8.55	9.78	11.00	12.22	13.44	58.65
$2\frac{1}{8}$	5.10	6.38	7.65	8.93	10.20	11.48	12.75	14.03	61.20
$2\frac{1}{4}$	5.31	6.64	7.97	9.30	10.63	11.95	13.28	14.61	63.75
$2\frac{1}{2}$	5.53	6.91	8.29	9.67	11.05	12.43	13.81	15.19	66.30
$2\frac{3}{4}$	5.74	7.17	8.61	10.04	11.48	12.91	14.34	15.78	68.85
$2\frac{7}{8}$	5.95	7.44	8.93	10.41	11.90	13.39	14.88	16.36	71.40
$3\frac{1}{16}$	6.16	7.70	9.24	10.78	12.33	13.87	15.41	16.95	73.95
$3\frac{1}{8}$	6.38	7.97	9.56	11.16	12.75	14.34	15.94	17.53	76.50
$3\frac{1}{4}$	6.59	8.23	9.88	11.53	13.18	14.82	16.47	18.12	79.05
2	6.80	8.50	10.20	11.90	13.60	15.30	17.00	18.70	81.60

WEIGHTS OF FLAT ROLLED STEEL BARS.

POUNDS PER LINEAL FOOT.

(Continued)

Thickness in Inches	3"	3½"	3½"	3¾"	4"	4½"	4½"	4¾"	12"
1/8	.638	.691	.744	.797	.850	9.03	.956	1.01	2.55
1/4	1.28	1.38	1.49	1.59	1.70	1.81	1.91	2.02	5.10
3/8	1.91	2.07	2.23	2.39	2.55	2.71	2.87	3.03	7.65
1/2	2.55	2.76	2.98	3.19	3.40	3.61	3.83	4.04	10.20
5/8	3.19	3.45	3.72	3.98	4.25	4.52	4.78	5.05	12.75
3/4	3.83	4.14	4.46	4.78	5.10	5.42	5.74	6.06	15.30
7/8	4.46	4.83	5.21	5.58	5.95	6.32	6.69	7.07	17.85
1	5.10	5.53	5.95	6.38	6.80	7.22	7.65	8.08	20.40
1 1/8	5.74	6.22	6.69	7.17	7.65	8.13	8.61	9.08	22.95
1 1/4	6.38	6.91	7.44	7.97	8.50	9.03	9.56	10.09	25.50
1 1/2	7.01	7.60	8.18	8.77	9.35	9.93	10.52	11.10	28.05
1 3/4	7.65	8.29	8.93	9.56	10.20	10.84	11.48	12.11	30.60
1 7/8	8.29	8.98	9.67	10.36	11.05	11.74	12.43	13.12	33.15
2	8.93	9.67	10.41	11.16	11.90	12.64	13.39	14.13	35.70
2 1/8	9.56	10.36	11.16	11.95	12.75	13.55	14.34	15.14	38.25
2 1/4	10.20	11.05	11.90	12.75	13.60	14.45	15.30	16.15	40.80
2 1/2	10.84	11.74	12.64	13.55	14.45	15.35	16.26	17.16	43.35
2 3/4	11.48	12.43	13.39	14.34	15.30	16.26	17.21	18.17	45.90
2 7/8	12.11	13.12	14.13	15.14	16.15	17.16	18.17	19.18	48.45
3	12.75	13.81	14.88	15.94	17.00	18.06	19.13	20.19	51.00
3 1/8	13.39	14.50	15.62	16.73	17.85	18.97	20.08	21.20	53.55
3 1/4	14.03	15.19	16.36	17.53	18.70	19.87	21.04	22.21	56.10
3 1/2	14.66	15.88	17.11	18.33	19.55	20.77	21.99	23.22	58.65
3 3/4	15.30	16.58	17.85	19.13	20.40	21.68	22.95	24.23	61.20
3 7/8	15.92	17.27	18.59	19.92	21.25	22.58	23.91	25.23	63.75
4	16.58	17.96	19.34	20.72	22.10	23.48	24.86	26.24	66.30
4 1/8	17.21	18.65	20.08	21.52	22.95	24.38	25.82	27.25	68.85
4 1/4	17.85	19.34	20.83	22.31	23.80	25.29	26.78	28.26	71.40
4 1/2	18.49	20.03	21.57	23.11	24.65	26.19	27.73	29.27	73.95
4 3/4	19.13	20.72	22.31	23.91	25.50	27.09	28.69	30.28	76.50
4 7/8	19.76	21.41	23.06	24.70	26.35	28.00	29.64	31.29	79.05
5	20.40	22.10	23.80	25.50	27.20	28.90	30.60	32.30	81.60

WEIGHTS OF FLAT ROLLED STEEL BARS.

POUNDS PER LINEAL FOOT.

(Continued)

Thickness in Inches	5"	5½"	5¾"	5¾"	6"	6¼"	6½"	6¾"	12"
1/8	1.06	1.12	1.17	1.22	1.28	1.33	1.38	1.43	2.55
3/16	2.13	2.23	2.34	2.44	2.55	2.66	2.76	2.87	5.10
1/4	3.19	3.35	3.51	3.67	3.83	3.98	4.14	4.30	7.65
5/16	4.25	4.46	4.68	4.89	5.10	5.31	5.53	5.74	10.20
3/8	5.31	5.58	5.84	6.11	6.38	6.64	6.91	7.17	12.75
7/16	6.38	6.69	7.01	7.33	7.65	7.97	8.29	8.61	15.30
1/2	7.44	7.81	8.18	8.55	8.93	9.30	9.67	10.04	17.85
5/8	8.50	8.93	9.35	9.78	10.20	10.63	11.05	11.48	20.40
3/4	9.56	10.04	10.52	11.00	11.48	11.95	12.43	12.91	22.95
7/8	10.63	11.16	11.69	12.22	12.75	13.28	13.81	14.34	25.50
1	11.69	12.27	12.86	13.44	14.03	14.61	15.19	15.78	28.05
1 1/8	12.75	13.39	14.03	14.67	15.30	15.94	16.58	17.21	30.60
1 1/4	13.81	14.50	15.19	15.88	16.58	17.27	17.96	18.65	33.15
1 3/8	14.88	15.62	16.36	17.11	17.85	18.59	19.34	20.08	35.70
1 1/2	15.94	16.73	17.53	18.33	19.13	19.92	20.72	21.52	38.25
1 5/8	17.00	17.85	18.70	19.55	20.40	21.25	22.10	22.95	40.80
1 3/4	18.06	18.97	19.87	20.77	21.68	22.58	23.48	24.38	43.35
1 7/8	19.13	20.08	21.04	21.99	22.95	23.91	24.86	25.82	45.90
2	20.19	21.20	22.21	23.22	24.23	25.23	26.24	27.25	48.45
2 1/8	21.25	22.31	23.38	24.44	25.50	26.56	27.63	28.69	51.00
2 1/4	22.31	23.43	24.54	25.66	26.78	27.89	29.01	30.12	53.55
2 3/8	23.38	24.54	25.71	26.88	28.05	29.22	30.39	31.56	56.10
2 1/2	24.44	25.66	26.88	28.10	29.33	30.55	31.77	32.99	58.65
2 5/8	25.50	26.78	28.05	29.33	30.60	31.88	33.15	34.43	61.20
2 3/4	26.56	27.89	29.22	30.55	31.88	33.20	34.53	35.86	63.75
2 7/8	27.63	29.01	30.39	31.77	33.15	34.53	35.91	37.29	66.30
3	28.69	30.12	31.56	32.99	34.43	35.86	37.29	38.73	68.85
3 1/8	29.75	31.24	32.73	34.21	35.70	37.19	38.68	40.16	71.40
3 1/4	30.81	32.35	33.89	35.43	36.98	38.52	40.06	41.60	73.95
3 3/8	31.88	33.47	35.06	36.66	38.25	39.84	41.44	43.03	76.50
3 1/2	32.94	34.58	36.23	37.88	39.53	41.17	42.82	44.47	79.05
3 5/8	34.00	35.70	37.40	39.10	40.80	42.50	44.20	45.90	81.60

WEIGHTS OF FLAT ROLLED STEEL BARS.

POUNDS PER LINEAL FOOT.

(Continued)

Thickness in inches	7"	7½"	7¾"	8"	8½"	8¾"	9"	9½"	10"
1/8	1.49	1.54	1.59	1.65	1.70	1.75	1.81	1.86	2.55
3/16	2.98	3.08	3.19	3.29	3.40	3.51	3.61	3.72	5.10
1/4	4.46	4.62	4.78	4.94	5.10	5.26	5.42	5.58	7.65
5/16	5.95	6.16	6.38	6.59	6.80	7.01	7.23	7.44	10.20
3/8	7.44	7.70	7.97	8.23	8.50	8.77	9.03	9.30	12.75
7/16	8.93	9.24	9.56	9.88	10.20	10.52	10.84	11.16	15.30
1/2	10.41	10.78	11.16	11.53	11.90	12.27	12.64	13.02	17.85
5/8	11.90	12.33	12.75	13.18	13.60	14.03	14.45	14.88	20.40
3/4	13.39	13.87	14.34	14.82	15.30	15.78	16.26	16.73	22.95
7/8	14.88	15.41	15.94	16.47	17.00	17.53	18.06	18.59	25.50
1	16.36	16.95	17.53	18.12	18.70	19.28	19.87	20.45	28.05
1 1/8	17.85	18.49	19.13	19.76	20.40	21.04	21.68	22.31	30.60
1 1/4	19.34	20.03	20.72	21.41	22.10	22.79	23.48	24.17	33.15
1 3/8	20.83	21.57	22.31	23.06	23.80	24.54	25.29	26.03	35.70
1 1/2	22.31	23.11	23.91	24.70	25.50	26.30	27.09	27.89	38.25
1 5/8	23.80	24.65	25.50	26.35	27.20	28.05	28.90	29.75	40.80
1 3/4	25.29	26.19	27.09	28.00	28.90	29.80	30.71	31.61	43.35
1 7/8	26.78	27.73	28.69	29.64	30.60	31.56	32.51	33.47	45.90
2	28.26	29.27	30.28	31.29	32.30	33.31	34.32	35.33	48.45
2 1/8	29.75	30.81	31.88	32.94	34.00	35.06	36.13	37.19	51.00
2 1/4	31.24	32.35	33.47	34.58	35.70	36.82	37.93	39.05	53.55
2 3/8	32.73	33.89	35.06	36.23	37.40	38.57	39.74	40.91	56.10
2 1/2	34.21	35.43	36.66	37.88	39.10	40.32	41.54	42.77	58.65
2 5/8	35.70	36.98	38.25	39.53	40.80	42.08	43.35	44.63	61.20
2 3/4	37.19	38.52	39.84	41.17	42.50	43.83	45.16	46.48	63.75
2 7/8	38.68	40.06	41.44	42.82	44.20	45.58	46.96	48.34	66.30
3	40.16	41.60	43.03	44.47	45.90	47.33	48.77	50.20	68.85
3 1/8	41.65	43.14	44.63	46.11	47.60	49.09	50.58	52.06	71.40
3 1/4	43.14	44.68	46.22	47.76	49.30	50.84	52.38	53.92	73.95
3 3/8	44.63	46.22	47.81	49.41	51.00	52.59	54.19	55.78	76.50
3 1/2	46.11	47.76	49.41	51.05	52.70	54.35	55.99	57.64	79.05
3 5/8	47.60	49.30	51.00	52.70	54.40	56.10	57.80	59.50	81.60

WEIGHTS OF FLAT ROLLED STEEL BARS.

POUNDS PER LINEAL FOOT.

(Continued)

Thickness in Inches	9"	9½"	9¾"	9⅝"	10"	10¼"	10½"	10¾"	12"
1⅛	1.91	1.97	2.02	2.07	2.13	2.18	2.23	2.28	2.55
1⅜	3.83	3.93	4.04	4.15	4.25	4.36	4.46	4.57	5.10
1½	5.74	5.90	6.06	6.22	6.38	6.53	6.69	6.85	7.65
1⅞	7.65	7.86	8.08	8.29	8.50	8.71	8.93	9.14	10.20
2	9.56	9.83	10.09	10.36	10.63	10.89	11.16	11.42	12.75
2¼	11.48	11.79	12.11	12.43	12.75	13.07	13.39	13.71	15.30
2½	13.39	13.76	14.13	14.50	14.88	15.25	15.62	15.99	17.85
2¾	15.30	15.73	16.15	16.58	17.00	17.43	17.85	18.28	20.40
3	17.21	17.69	18.17	18.65	19.13	19.60	20.08	20.56	22.95
3¼	19.13	19.66	20.19	20.72	21.25	21.78	22.31	22.84	25.50
3½	21.04	21.62	22.21	22.79	23.38	23.96	24.54	25.13	28.05
3¾	22.95	23.59	24.23	24.86	25.50	26.14	26.78	27.41	30.60
4	24.86	25.55	26.24	26.93	27.63	28.32	29.01	29.70	33.15
4¼	26.78	27.52	28.26	29.01	29.75	30.49	31.24	31.98	35.70
4½	28.69	29.48	30.28	31.08	31.88	32.67	33.47	34.27	38.25
1	30.60	31.45	32.30	33.15	34.00	34.85	35.70	36.55	40.80
1⅛	32.51	33.42	34.32	35.22	36.13	37.03	37.93	38.83	43.35
1⅜	34.43	35.38	36.34	37.29	38.25	39.21	40.16	41.12	45.90
1½	36.34	37.35	38.36	39.37	40.38	41.38	42.39	43.40	48.45
1⅞	38.25	39.31	40.38	41.44	42.50	43.56	44.63	45.69	51.00
2	40.16	41.28	42.39	43.51	44.63	45.74	46.86	47.97	53.55
2¼	42.08	43.24	44.41	45.58	46.75	47.92	49.09	50.26	56.10
2½	43.99	45.21	46.43	47.65	48.88	50.10	51.32	52.54	58.65
2¾	45.90	47.18	48.45	49.73	51.00	52.28	53.55	54.83	61.20
3	47.81	49.14	50.47	51.80	53.13	54.45	55.78	57.11	63.75
3¼	49.73	51.11	52.49	53.87	55.25	56.63	58.01	59.39	66.30
3½	51.64	53.07	54.51	55.94	57.38	58.81	60.24	61.68	68.85
3¾	53.55	55.04	56.53	58.01	59.50	60.99	62.48	63.95	71.40
4	55.46	57.00	58.54	60.08	61.63	63.17	64.71	66.25	73.95
4¼	57.38	58.97	60.56	62.16	63.75	65.34	66.94	68.53	76.50
4½	59.29	60.93	62.58	64.23	65.88	67.52	69.17	70.82	79.05
2	61.20	62.90	64.60	66.30	68.00	69.70	71.40	73.10	81.60

WEIGHTS OF FLAT ROLLED STEEL BARS.

POUNDS PER LINEAL FOOT.

(Concluded)

Thickness in inches	11"	11 $\frac{1}{4}$ "	11 $\frac{1}{2}$ "	11 $\frac{3}{4}$ "	12"	12 $\frac{1}{4}$ "	12 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "
$\frac{1}{16}$	2.34	2.39	2.44	2.50	2.55	2.60	2.66	2.71
$\frac{1}{8}$	4.68	4.78	4.89	4.99	5.10	5.21	5.31	5.42
$\frac{3}{16}$	7.01	7.17	7.33	7.49	7.65	7.81	7.97	8.13
$\frac{1}{4}$	9.35	9.56	9.78	9.99	10.20	10.41	10.63	10.84
$\frac{5}{16}$	11.69	11.95	12.22	12.48	12.75	13.02	13.28	13.55
$\frac{3}{8}$	14.03	14.34	14.66	14.98	15.30	15.62	15.94	16.26
$\frac{7}{16}$	16.36	16.73	17.11	17.48	17.85	18.22	18.59	18.97
$\frac{1}{2}$	18.70	19.13	19.55	19.98	20.40	20.83	21.25	21.68
$\frac{9}{16}$	21.04	21.52	21.99	22.47	22.95	23.43	23.91	24.38
$\frac{5}{8}$	23.38	23.91	24.44	24.97	25.50	26.03	26.56	27.09
$\frac{11}{16}$	25.71	26.30	26.88	27.47	28.05	28.63	29.22	29.80
$\frac{3}{4}$	28.05	28.69	29.33	29.96	30.60	31.24	31.88	32.51
$\frac{13}{16}$	30.39	31.08	31.77	32.46	33.15	33.84	34.53	35.22
$\frac{7}{8}$	32.73	33.47	34.21	34.96	35.70	36.44	37.19	37.93
$1\frac{1}{16}$	35.06	35.86	36.66	37.45	38.25	39.05	39.84	40.64
1	37.40	38.25	39.10	39.95	40.80	41.65	42.50	43.35
$1\frac{1}{16}$	39.74	40.64	41.54	42.45	43.35	44.25	45.16	46.06
$1\frac{1}{8}$	42.08	43.03	43.99	44.94	45.90	46.86	47.81	48.77
$1\frac{3}{16}$	44.41	45.42	46.43	47.44	48.45	49.46	50.47	51.48
$1\frac{1}{4}$	46.75	47.81	48.88	49.94	51.00	52.06	53.13	54.19
$1\frac{5}{16}$	49.09	50.20	51.32	52.43	53.55	54.67	55.78	56.90
$1\frac{3}{8}$	51.43	52.59	53.76	54.93	56.10	57.27	58.44	59.61
$1\frac{7}{16}$	53.76	54.98	56.21	57.43	58.65	59.87	61.09	62.32
$1\frac{1}{2}$	56.10	57.38	58.65	59.93	61.20	62.48	63.75	65.03
$1\frac{9}{16}$	58.44	59.77	61.09	62.42	63.75	65.08	66.41	67.73
$1\frac{5}{8}$	60.78	62.16	63.54	64.92	66.30	67.68	69.06	70.44
$1\frac{11}{16}$	63.11	64.55	65.98	67.42	68.85	70.28	71.72	73.15
$1\frac{3}{4}$	65.45	66.94	68.43	69.91	71.40	72.89	74.38	75.86
$1\frac{13}{16}$	67.79	69.33	70.87	72.41	73.95	75.49	77.03	78.57
$1\frac{7}{8}$	70.13	71.72	73.31	74.91	76.50	78.09	79.69	81.28
$1\frac{15}{16}$	72.46	74.11	75.76	77.40	79.05	80.70	82.34	83.99
2	74.80	76.50	78.20	79.90	81.60	83.30	85.00	86.70

The weights for 12" width are repeated on each page to facilitate making the additions necessary to obtain the weights of plates of any width greater than 12". Thus, to find the weight of 15 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " add the weights to be found in the same line for 3 $\frac{1}{4}$ " x $\frac{1}{4}$ " and 12" x $\frac{1}{4}$ " = 10.41 + 35.70 = 46.11 pounds. Weight of plate 4' 6 $\frac{1}{2}$ " x $\frac{1}{8}$ " = 4 x 25.50 + 13.81 = 115.81 pounds.

APPROXIMATE WEIGHT OF ROUND EDGE TIRE STEEL PER SET (52 FEET).

(FACE MEASURE)

Size	Lbs.	Size	Lbs.	Size	Lbs.
$\frac{5}{8} \times \frac{3}{4}$	11	$1\frac{1}{4} \times \frac{7}{8}$	109	$2 \times \frac{3}{4}$	294
$\frac{5}{8} \times \frac{1}{2}$	15	$1\frac{1}{4} \times \frac{1}{2}$	126	$2 \times \frac{5}{8}$	350
$\frac{5}{8} \times \frac{3}{8}$	19			2×1	399
$\frac{5}{8} \times \frac{1}{8}$	23	$1\frac{3}{8} \times \frac{1}{4}$	65		
		$1\frac{3}{8} \times \frac{1}{8}$	82	$2\frac{1}{2} \times \frac{1}{2}$	204
$\frac{3}{4} \times \frac{3}{4}$	13	$1\frac{3}{8} \times \frac{3}{8}$	100	$2\frac{1}{2} \times \frac{5}{8}$	259
$\frac{3}{4} \times \frac{1}{2}$	18	$1\frac{3}{8} \times \frac{1}{2}$	119	$2\frac{1}{2} \times \frac{3}{4}$	311
$\frac{3}{4} \times \frac{3}{8}$	23	$1\frac{3}{8} \times \frac{3}{4}$	137	$2\frac{1}{2} \times \frac{7}{8}$	369
$\frac{3}{4} \times \frac{1}{8}$	27	$1\frac{3}{8} \times 1$	176	$2\frac{1}{2} \times 1$	422
$\frac{3}{4} \times \frac{3}{4}$	32				
$\frac{3}{4} \times \frac{1}{2}$	37	$1\frac{1}{2} \times \frac{5}{8}$	89	$2\frac{1}{2} \times \frac{3}{8}$	158
		$1\frac{1}{2} \times \frac{1}{2}$	109	$2\frac{1}{2} \times \frac{5}{8}$	215
$\frac{1}{2} \times \frac{5}{8}$	24	$1\frac{1}{2} \times \frac{3}{4}$	128	$2\frac{1}{2} \times \frac{3}{4}$	273
$\frac{1}{2} \times \frac{1}{2}$	29	$1\frac{1}{2} \times \frac{1}{2}$	148	$2\frac{1}{2} \times \frac{7}{8}$	327
		$1\frac{1}{2} \times \frac{9}{16}$	172	$2\frac{1}{2} \times 1$	389
$\frac{7}{8} \times \frac{1}{8}$	21	$1\frac{1}{2} \times \frac{5}{16}$	190	$2\frac{1}{2} \times 1$	444
$\frac{7}{8} \times \frac{3}{8}$	26	$1\frac{1}{2} \times \frac{3}{4}$	228		
$\frac{7}{8} \times \frac{1}{2}$	32			$2\frac{1}{2} \times \frac{1}{2}$	237
$\frac{7}{8} \times \frac{3}{4}$	37	$1\frac{5}{8} \times \frac{7}{8}$	138	$2\frac{1}{2} \times \frac{3}{4}$	301
$\frac{7}{8} \times \frac{1}{4}$	43	$1\frac{5}{8} \times \frac{1}{2}$	160	$2\frac{1}{2} \times \frac{5}{8}$	360
$\frac{7}{8} \times \frac{5}{8}$	55	$1\frac{5}{8} \times \frac{3}{4}$	184	$2\frac{1}{2} \times \frac{7}{8}$	427
		$1\frac{5}{8} \times 1$	204	$2\frac{1}{2} \times 1$	488
$1 \times \frac{1}{8}$	23	$1\frac{5}{8} \times \frac{5}{8}$	244		
$1 \times \frac{1}{4}$	30	$1\frac{3}{4} \times \frac{5}{16}$	103	$2\frac{3}{4} \times \frac{1}{2}$	259
$1 \times \frac{1}{8}$	36	$1\frac{3}{4} \times \frac{1}{4}$	171	$2\frac{3}{4} \times \frac{3}{4}$	328
$1 \times \frac{3}{8}$	42	$1\frac{3}{4} \times \frac{3}{8}$	196	$2\frac{3}{4} \times \frac{5}{8}$	394
$1 \times \frac{1}{2}$	48	$1\frac{3}{4} \times \frac{1}{2}$	218	$2\frac{3}{4} \times \frac{7}{8}$	466
$1 \times \frac{5}{8}$	62	$1\frac{3}{4} \times \frac{3}{4}$	261	$2\frac{3}{4} \times 1$	532
1×1	75	$1\frac{3}{4} \times 1$			
				$3 \times \frac{1}{2}$	281
$1\frac{1}{8} \times \frac{3}{8}$	40	$1\frac{7}{8} \times \frac{1}{2}$	182	$3 \times \frac{3}{4}$	356
$1\frac{1}{8} \times \frac{1}{4}$	54	$1\frac{7}{8} \times \frac{3}{4}$	232	$3 \times \frac{5}{8}$	427
$1\frac{1}{8} \times \frac{1}{8}$	69	$1\frac{7}{8} \times 1$	278	3×1	505
$1\frac{1}{8} \times \frac{3}{8}$	84				
$1\frac{1}{8} \times \frac{1}{2}$	99	$2 \times \frac{5}{8}$	117	$4 \times \frac{1}{2}$	369
$1\frac{1}{8} \times \frac{3}{4}$	115	$2 \times \frac{3}{4}$	142	$4 \times \frac{3}{4}$	467
		$2 \times \frac{1}{2}$	167	$4 \times \frac{5}{8}$	559
$1\frac{1}{4} \times \frac{3}{8}$	44	$2 \times \frac{1}{4}$	192	4×1	659
$1\frac{1}{4} \times \frac{1}{4}$	60	$2 \times \frac{3}{8}$	246		
$1\frac{1}{4} \times \frac{1}{8}$	75				
$1\frac{1}{4} \times \frac{3}{4}$	92				

APPROXIMATE WEIGHT OF ROUND EDGE TIRE STEEL PER FOOT.

(FACE MEASURE)

Size	Lbs.	Size	Lbs.	Size	Lbs.
$\frac{1}{8} \times \frac{1}{8}$	.213	$1\frac{1}{4} \times \frac{1}{8}$	2.09	2 x $\frac{3}{4}$	5.65
$\frac{1}{8} \times \frac{1}{4}$	.284	$1\frac{1}{4} \times \frac{1}{4}$	2.43	2 x $\frac{7}{8}$	6.72
$\frac{1}{8} \times \frac{3}{8}$	.362	$1\frac{1}{2} \times \frac{1}{8}$	1.25	2 x 1	7.68
$\frac{1}{8} \times \frac{1}{2}$	.440	$1\frac{1}{2} \times \frac{1}{4}$	1.58	$2\frac{1}{8} \times \frac{3}{8}$	2.88
$\frac{1}{4} \times \frac{1}{8}$	.253	$1\frac{1}{2} \times \frac{1}{2}$	1.92	$2\frac{1}{8} \times \frac{1}{2}$	3.91
$\frac{1}{4} \times \frac{1}{4}$	.337	$1\frac{1}{2} \times \frac{3}{8}$	2.28	$2\frac{1}{8} \times \frac{1}{2}$	4.98
$\frac{1}{4} \times \frac{3}{8}$	.428	$1\frac{1}{2} \times \frac{1}{2}$	2.64	$2\frac{1}{8} \times \frac{3}{4}$	5.97
$\frac{1}{4} \times \frac{1}{2}$	.520	$1\frac{1}{2} \times \frac{3}{4}$	3.39	$2\frac{1}{8} \times \frac{7}{8}$	7.10
$\frac{1}{4} \times \frac{3}{4}$	.616	$1\frac{3}{4} \times \frac{1}{8}$	1.71	$2\frac{1}{8} \times 1$	8.10
$\frac{1}{4} \times \frac{1}{2}$	.712	$1\frac{3}{4} \times \frac{1}{4}$	2.08	$2\frac{1}{4} \times \frac{3}{8}$	3.04
$\frac{3}{8} \times \frac{1}{8}$	.462	$1\frac{3}{4} \times \frac{1}{2}$	2.46	$2\frac{1}{4} \times \frac{1}{2}$	4.13
$\frac{3}{8} \times \frac{1}{4}$	.560	$1\frac{3}{4} \times \frac{3}{8}$	2.85	$2\frac{1}{4} \times \frac{1}{2}$	5.25
$\frac{3}{8} \times \frac{1}{2}$	.690	$1\frac{3}{4} \times \frac{1}{2}$	3.29	$2\frac{1}{4} \times \frac{3}{4}$	6.29
$\frac{3}{8} \times \frac{3}{8}$	.789	$1\frac{3}{4} \times \frac{3}{4}$	3.66	$2\frac{1}{4} \times \frac{7}{8}$	7.47
$\frac{3}{8} \times \frac{1}{2}$	.818	$1\frac{3}{4} \times 1$	4.38	$2\frac{1}{4} \times 1$	8.53
$\frac{3}{8} \times \frac{3}{4}$	1.046	$1\frac{5}{8} \times \frac{1}{8}$	2.65	$2\frac{1}{2} \times \frac{3}{8}$	4.55
$\frac{3}{8} \times \frac{1}{2}$	.444	$1\frac{5}{8} \times \frac{1}{4}$	3.06	$2\frac{1}{2} \times \frac{1}{2}$	5.78
$\frac{3}{8} \times \frac{3}{8}$	.561	$1\frac{5}{8} \times \frac{1}{2}$	3.53	$2\frac{1}{2} \times \frac{3}{4}$	6.93
$\frac{3}{8} \times \frac{1}{2}$	.679	$1\frac{5}{8} \times \frac{3}{4}$	3.92	$2\frac{1}{2} \times \frac{7}{8}$	8.21
$\frac{3}{8} \times \frac{3}{4}$	.801	$1\frac{5}{8} \times 1$	4.70	$2\frac{1}{2} \times 1$	9.38
$\frac{3}{8} \times \frac{1}{2}$	.924	$1\frac{3}{4} \times \frac{5}{8}$	1.98	$2\frac{3}{4} \times \frac{3}{8}$	4.98
$\frac{3}{8} \times \frac{3}{4}$	1.179	$1\frac{3}{4} \times \frac{1}{2}$	2.40	$2\frac{3}{4} \times \frac{1}{2}$	6.31
$\frac{3}{8} \times \frac{1}{2}$	1.442	$1\frac{3}{4} \times \frac{3}{4}$	3.28	$2\frac{3}{4} \times \frac{3}{4}$	7.57
$\frac{3}{8} \times \frac{1}{2}$	.759	$1\frac{3}{4} \times \frac{1}{2}$	3.77	$2\frac{3}{4} \times \frac{7}{8}$	8.96
$\frac{3}{8} \times \frac{1}{4}$	1.03	$1\frac{3}{4} \times \frac{3}{4}$	4.19	$2\frac{3}{4} \times 1$	10.23
$\frac{3}{8} \times \frac{1}{8}$	1.31	$1\frac{3}{4} \times 1$	5.02	3 x $\frac{1}{8}$	5.40
$\frac{3}{8} \times \frac{1}{8}$	1.60	$1\frac{7}{8} \times \frac{1}{8}$	3.49	3 x $\frac{1}{4}$	6.84
$\frac{3}{8} \times \frac{1}{8}$	1.90	$1\frac{7}{8} \times \frac{1}{4}$	4.45	3 x $\frac{1}{2}$	8.20
$\frac{3}{8} \times \frac{1}{8}$	2.21	$1\frac{7}{8} \times \frac{1}{2}$	5.33	3 x $\frac{3}{4}$	9.70
$\frac{3}{8} \times \frac{1}{8}$	.839	$1\frac{7}{8} \times \frac{3}{4}$	6.35	3 x 1	11.08
$\frac{3}{8} \times \frac{1}{8}$	1.14	2 x $\frac{5}{8}$	2.24	4 x $\frac{1}{8}$	7.10
$\frac{3}{8} \times \frac{1}{8}$	1.45	2 x $\frac{1}{2}$	2.72	4 x $\frac{1}{4}$	8.97
$\frac{3}{8} \times \frac{1}{8}$	1.76	2 x $\frac{3}{4}$	3.21	4 x $\frac{1}{2}$	10.75
		2 x $\frac{1}{2}$	3.70	4 x $\frac{3}{4}$	12.67
		2 x $\frac{1}{2}$	4.72	4 x 1	14.48

WEIGHTS OF FLAT ROLLED STRIPS, HOOP OR BAND STEEL.

POUNDS PER LINEAL FOOT.

Thickness by Birmingham or Stubbs Iron Wire Gauge.

One cubic foot of steel weighs 489.6 pounds.

For widths from $\frac{1}{4}$ inch to $\frac{3}{4}$ inch and thicknesses from No. 19 to No. 11 B.W.G.

Width in Inches	No. 19. .042 In.	No. 18. .049 In.	No. 17. .058 In.	No. 16. .065 In.	No. 15. .072 In.	No. 14. .083 In.	No. 13. .095 In.	No. 12. .109 In.	No. 11. .120 In.
$\frac{1}{4}$	.036	.042	.049	.055	.061	.071	.081	.093	.102
$\frac{1}{2}$	.038	.044	.052	.059	.065	.075	.086	.098	.108
$\frac{3}{4}$	.040	.047	.055	.062	.069	.079	.091	.104	.115
$\frac{1}{2}$	.042	.049	.059	.066	.073	.084	.096	.110	.121
$\frac{5}{16}$	.045	.052	.062	.069	.077	.088	.101	.116	.128
$\frac{1}{4}$	.047	.055	.065	.073	.080	.093	.106	.122	.134
$\frac{3}{8}$	.049	.057	.068	.076	.084	.097	.111	.127	.140
$\frac{1}{2}$	.051	.060	.071	.079	.088	.101	.116	.133	.147
$\frac{3}{8}$	.054	.062	.074	.083	.092	.106	.121	.139	.153
$\frac{1}{2}$	.056	.065	.077	.086	.096	.110	.126	.145	.159
$\frac{3}{4}$	.058	.068	.080	.090	.099	.115	.131	.151	.166
$\frac{1}{2}$	.060	.070	.083	.093	.103	.119	.136	.156	.172
$\frac{7}{16}$	.062	.073	.086	.097	.107	.123	.141	.162	.179
$\frac{1}{2}$	.065	.075	.089	.100	.111	.128	.146	.168	.185
$\frac{3}{4}$	.067	.078	.092	.104	.115	.132	.151	.174	.191
$\frac{1}{2}$	.069	.081	.096	.107	.119	.137	.156	.180	.198
$\frac{1}{2}$	.071	.083	.099	.111	.122	.141	.162	.185	.204
$\frac{3}{4}$	.074	.086	.102	.114	.126	.146	.167	.191	.210
$\frac{1}{2}$	.076	.089	.105	.117	.130	.150	.172	.197	.217
$\frac{3}{4}$	.078	.091	.108	.121	.134	.154	.177	.203	.223
$\frac{9}{16}$	.080	.094	.111	.124	.138	.159	.182	.208	.230
$\frac{1}{2}$	.083	.096	.114	.128	.142	.163	.187	.214	.236
$\frac{3}{4}$	.085	.099	.117	.131	.145	.168	.192	.220	.242
$\frac{1}{2}$	.087	.102	.120	.135	.149	.172	.197	.226	.249
$\frac{5}{8}$	.089	.104	.123	.138	.153	.176	.202	.232	.255
$\frac{1}{2}$	.091	.107	.126	.142	.157	.181	.207	.237	.261
$\frac{3}{4}$	.094	.109	.129	.145	.161	.185	.212	.243	.268
$\frac{1}{2}$	.096	.112	.132	.148	.164	.190	.217	.249	.274
$\frac{1}{2}$	.098	.115	.136	.152	.168	.194	.222	.255	.281
$\frac{3}{4}$	.100	.117	.139	.155	.172	.198	.227	.261	.287
$\frac{1}{2}$	.103	.120	.142	.159	.176	.203	.232	.266	.293
$\frac{3}{4}$	.105	.122	.145	.162	.180	.207	.237	.272	.300
$\frac{1}{2}$	.107	.125	.148	.166	.184	.212	.242	.278	.306

SHEETS AND PLATES OF STEEL.

WEIGHTS PER SQUARE FOOT.

No. of Gauge	Birmingham or Stubs Iron Wire Gauge (B. W. G.)		American or Brown & Sharp Gauge	
	Thickness	Weight per Sq. Ft.	Thickness	Weight per Sq. Ft.
	Inch	Pounds	Inch	Pounds
0000	.454	18.5282	.460000	18.7680
000	.425	17.3400	.409642	16.7184
00	.380	15.5040	.364796	14.8887
0	.340	13.8720	.324861	13.2548
1	.300	12.2400	.289297	11.8083
2	.284	11.5872	.257627	10.5112
3	.259	10.5672	.229428	9.3605
4	.238	9.7104	.204807	8.3857
5	.220	8.9760	.181940	7.4282
6	.203	8.2524	.162023	6.6105
7	.180	7.3440	.142285	5.8868
8	.165	6.7320	.128490	5.2424
9	.148	6.0884	.114428	4.6685
10	.134	5.4672	.101897	4.1574
11	.120	4.8960	.090742	3.7023
12	.109	4.4472	.080808	3.2970
13	.095	3.8760	.071962	2.9360
14	.083	3.3864	.064084	2.6146
15	.072	2.9376	.057068	2.3284
16	.065	2.6520	.050821	2.0735
17	.058	2.3664	.045257	1.8465
18	.049	1.9992	.040303	1.6444
19	.042	1.7136	.035890	1.4643
20	.035	1.4280	.031961	1.3040
21	.032	1.3056	.028482	1.1612
22	.028	1.1424	.025346	1.0341
23	.025	1.0200	.022572	.92094
24	.022	.8976	.020101	.82012
25	.020	.8160	.017900	.73032
26	.018	.7344	.015941	.65089
27	.016	.6528	.014195	.57916
28	.014	.5712	.012641	.51575
29	.013	.5304	.011257	.45929
30	.012	.4896	.010025	.40902
31	.010	.4080	.008928	.36426
32	.009	.3672	.007950	.32486
33	.008	.3264	.007080	.28886
34	.007	.2856	.006305	.25724
35	.005	.2040	.005615	.22909
36	.004	.1632	.005000	.20400
37			.004453	.18168
38			.003965	.16177
39			.003531	.14406
40			.003144	.12828

For weights of steel plates $\frac{1}{8}$ inch and over in thickness, see
 "Weights of Flat Rolled Bars," pages 226 to 237 inclusive.

STANDARD DECIMAL GAUGE.

Standard Decimal Gauge in Inches	Thickness in Fractions of an Inch	Approximate Thickness in Millimetres	Weight per Sq. Foot in Pounds, Avoirdupois	
			IRON Basis—480 Pounds per Cubic Foot	STEEL Basis—489.6 Pounds per Cubic Foot
.002	1-500	.05080010	.08	.0816
.004	1-250	.10160020	.16	.1632
.006	3-500	.15240030	.24	.2448
.008	1-125	.20320041	.32	.3264
.010	1-100	.25400051	.40	.4080
.012	3-250	.30480061	.48	.4896
.014	7-500	.35560071	.56	.5712
.016	2-125($\frac{1}{8}$ +)	.40640081	.64	.6528
.018	9-500	.45720091	.72	.7344
.020	1-50	.50800102	.80	.8160
.022	11-500	.55880112	.88	.8976
.025	1-40	.63500127	1.00	1.0200
.028	7-250	.71120142	1.12	1.1424
.032	4-125($\frac{1}{4}$ +)	.81280163	1.28	1.3056
.036	9-250	.91440183	1.44	1.4688
.040	1-25	1.01600203	1.60	1.6320
.045	9-200	1.14300229	1.80	1.8360
.050	1-20	1.27000254	2.00	2.0400
.055	11-200	1.39700280	2.20	2.2440
.060	3-50 ($\frac{1}{4}$ -)	1.52400305	2.40	2.4480
.065	13-200	1.65100330	2.60	2.6520
.070	7-100	1.77800356	2.80	2.8560
.075	3-40	1.90500381	3.00	3.0600
.080	2-25	2.03200406	3.20	3.2640
.085	17-200	2.15900432	3.40	3.4680
.090	9-100	2.28600457	3.60	3.6720
.095	19-200	2.41300483	3.80	3.8760
.100	1-10	2.54000508	4.00	4.0800
.110	11-100	2.79400559	4.40	4.4880
.125	1-8	3.17500630	5.00	5.1000
.135	27-200	3.42900686	5.40	5.5080
.150	3-20	3.81000762	6.00	6.1200
.165	33-200	4.19100838	6.60	6.7320
.180	9-50	4.57200914	7.20	7.3440
.200	1-5	5.08001016	8.00	8.1600
.220	11-50	5.58801118	8.80	8.9760
.240	6-25	6.09601219	9.60	9.7920
.250	1-4	6.35001270	10.00	10.2000

WIRE AND SHEET METAL GAUGES.

IN DECIMALS OF AN INCH.

Gauge No.	Birmingham (or Stubs Iron) Wire Gauge (B.W.G.)	Standard Birmingham Sheet & Hoop Gauge (B. G.)	American or Brown & Sharpe Wire Gauge	United States Standard Gauge for Sheet and Plate Iron and Steel	Washburn & Moen Manufacturing Co. and John A. Roebling's Sons Co. Wire Gauge	American Screw Co. Screw Wire Gauge	British Imperial or English Legal Standard Wire Gauge
7/0	.....	.6666	.....	.5	.....	.....	.500
6/0	.....	.625	.....	.46875	.4600	.....	.464
5/0	.....	.5883	.....	.4375	.4300	.....	.432
4/0	.454	.5416	.460000	.40625	.3938	.....	.400
3/0	.425	.500	.409642	.375	.3625	.0315	.372
2/0	.380	.4452	.364796	.34375	.3310	.0447	.348
0	.340	.3964	.324861	.3125	.3065	.0578	.324
1	.300	.3532	.289297	.28125	.2830	.0710	.300
2	.284	.3147	.257627	.265625	.2625	.0842	.276
3	.259	.2804	.229423	.25	.2437	.0973	.252
4	.238	.250	.204307	.234375	.2253	.1105	.232
5	.220	.2225	.181940	.21875	.2070	.1236	.212
6	.203	.1981	.162023	.203125	.1920	.1368	.192
7	.180	.1764	.144285	.1875	.1770	.1500	.176
8	.165	.1570	.128490	.171875	.1620	.1631	.160
9	.148	.1398	.114423	.15625	.1483	.1763	.144
10	.134	.1250	.101897	.140625	.1350	.1894	.128
11	.120	.1113	.090742	.125	.1205	.2026	.116
12	.109	.0991	.080808	.109375	.1055	.2158	.104
13	.095	.0882	.071962	.09375	.0915	.2289	.092
14	.083	.0785	.064084	.078125	.0800	.2421	.080
15	.072	.0699	.057068	.0703125	.0720	.2552	.072
16	.065	.0625	.050821	.0625	.0625	.2684	.064
17	.058	.0556	.045257	.05625	.0540	.2816	.056
18	.049	.0495	.040303	.05	.0475	.2947	.048
19	.042	.0440	.035890	.04375	.0410	.3079	.040
20	.035	.0392	.031961	.0375	.0348	.3210	.036
21	.032	.0349	.028462	.034375	.03175	.3342	.032
22	.028	.03125	.025346	.03125	.0286	.3474	.028
23	.025	.02782	.022572	.028125	.0258	.3605	.024
24	.022	.02476	.020101	.025	.0230	.3737	.022
25	.020	.02204	.017900	.021875	.0204	.3868	.020
26	.018	.01961	.015941	.01875	.0181	.4000	.018
27	.016	.01745	.014195	.0171875	.0173	.4132	.0164
28	.014	.01563	.012641	.015625	.0162	.4263	.0148
29	.013	.0139	.011257	.0140625	.0150	.4395	.0136
30	.012	.0123	.010025	.0125	.0140	.4526	.0124
31	.010	.0110	.008928	.0109375	.0132	.4658	.0116
32	.009	.0098	.007950	.01015625	.0128	.4790	.0108
33	.008	.0087	.007080	.009375	.0118	.4921	.0100
34	.007	.0077	.006305	.00859375	.0104	.5053	.0092
35	.005	.0069	.005615	.0078125	.0095	.5184	.0084
36	.004	.0061	.005000	.00703125	.0090	.5316	.0076
37	.....	.0054	.004453	.006640625	.0085	.5448	.0068
38	.....	.0048	.003965	.00625	.0080	.5579	.0060
39	.....	.0043	.003531	.....	.0075	.5711	.0052
40	.....	.00386	.003144	.....	.0070	.5842	.0048

MENSURATION.**LENGTH.**

Circumference of circle=diameter \times 3.1416.

Diameter of circle=circumference \times 0.3183.

Side of square of equal periphery as circle=diameter \times 0.7854.

Diameter of circle of equal periphery as square=side \times 1.2732.

Side of an inscribed square=diameter of circle \times 0.7071.

Length of arc=No. of degrees \times diameter \times 0.008727.

Circumference of circle whose diameter is 1=

$$\pi = 3.14159265.$$

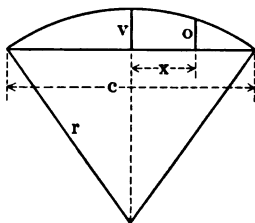
$$\log. \pi = 0.4971499$$

$$\sqrt{\pi} = 1.772454$$

$$\pi^2 = 9.869604$$

$$r = \frac{v^2 + \frac{c^2}{4}}{2v}$$

$$\text{or very nearly, } = \frac{c^2}{8v}$$



$$\frac{1}{\pi} = 0.318310$$

$$\frac{1}{\pi^2} = 0.101321$$

$$\sqrt{\frac{1}{\pi}} = 0.564190$$

$$o = \sqrt{r^2 - x^2} - (r - v)$$

$$v = r - \sqrt{r^2 - \frac{c^2}{4}}; \text{ or, very nearly, } = \frac{c^2}{8r}$$

AREA.

Triangle=base \times half perpendicular height.

Parallelogram=base \times perpendicular height.

Trapezoid=half the sum of the parallel sides \times perpendicular height.

Trapezium, found by dividing into two triangles.

Circle=diameter squared \times 0.7854; or, = circumference squared \times 0.07958.

Sector of circle=length of arc \times half radius.

Segment of circle=area of sector of equal radius—triangle when segment is less, and + triangle when segment is greater than the semicircle; also for flat segments very nearly =

$$\frac{4v}{3} \sqrt{0.388 v^2 + \frac{c^2}{4}}$$

Side of square of equal area as circle=diameter \times 0.8862; also, = circumference \times 0.2821.

Diameter of circle of equal area as square = side \times 1.1284.

Parabola = base $\times \frac{2}{3}$ height.

Ellipse = long diameter \times short diameter \times 0.7854.

Regular polygon = sum of sides \times half perpendicular distance from center to sides.

Cylinder = circumference \times height + area of both ends.

Sphere = diameter squared \times 3.1416;

also, = circumference \times diameter.

Segment of sphere=height of segment \times circumference of sphere of which it is a part + area of base.

Right pyramid or cone=periphery or circumference of base \times half slant height.

Frustum of a regular right pyramid or cone = sum of peripheries or circumferences of the two ends \times half slant height + area of both ends.

SOLID CONTENTS.

Prism, right or oblique, = area of base \times perpendicular height.

Cylinder, right or oblique, = area of section at right angles to sides \times length of side.

Sphere=diameter cubed \times 0.5236; also,=surface $\times \frac{1}{6}$ diameter.

Segment of sphere = (height squared + three times the square of radius of base) \times (height \times 0.5236).

Side of an equal cube = diameter of sphere \times 0.806.

Length of an equal cylinder = diameter of sphere \times 0.6667.

Pyramid or cone, right or oblique, regular or irregular, = area of base $\times \frac{1}{3}$ perpendicular height.

Frustum of cone = multiply area of two ends together, extract the square root; add to this root the two areas and $\times \frac{1}{3}$ altitude.

**DECIMALS OF AN INCH FOR EACH $\frac{1}{64}$ TH.
WITH MILLIMETRE EQUIVALENTS.**

Frac- tion	$\frac{1}{64}$ ths	Decimal	Millime- tres	Frac- tion	$\frac{1}{64}$ ths	Decimal	Millime- tres
1-32	1	.015625	0.397	17-32	33	.515625	13.097
	2	.03125	0.794		34	.53125	13.494
	3	.046875	1.191		35	.546875	13.891
1-16	4	.0625	1.588	9-16	36	.5625	14.288
3-32	5	.078125	1.984	19-32	37	.578125	14.684
	6	.09375	2.381		38	.59375	15.081
	7	.109375	2.778		39	.609375	15.478
1-8	8	.125	3.175	5-8	40	.625	15.875
5-32	9	.140625	3.572	21-32	41	.640625	16.272
	10	.15625	3.969		42	.65625	16.669
	11	.171875	4.366		43	.671875	17.066
3-16	12	.1875	4.763	11-16	44	.6875	17.463
7-32	13	.203125	5.159	23-32	45	.703125	17.859
	14	.21875	5.556		46	.71875	18.256
	15	.234375	5.953		47	.734375	18.653
1-4	16	.25	6.350	3-4	48	.75	19.050
9-32	17	.265625	6.747	25-32	49	.765625	19.447
	18	.28125	7.144		50	.78125	19.844
	19	.296875	7.541		51	.796875	20.241
5-16	20	.3125	7.938	13-16	52	.8125	20.638
11-32	21	.328125	8.334	27-32	53	.828125	21.034
	22	.34375	8.731		54	.84375	21.431
	23	.359375	9.128		55	.859375	21.828
3-8	24	.375	9.525	7-8	56	.875	22.225
13-32	25	.390625	9.922	29-32	57	.890625	22.622
	26	.40625	10.319		58	.90625	23.019
	27	.421875	10.716		59	.921875	23.416
7-16	28	.4375	11.113	15-16	60	.9375	23.813
15-32	29	.453125	11.509	31-32	61	.953125	24.209
	30	.46875	11.906		62	.96875	24.606
	31	.484375	12.303		63	.984375	25.003
1-2	32	.5	12.700	1	64	1.	25.400

METRIC CONVERSION FACTORS.**CUSTOMARY TO METRIC**

Pounds (Avoirdupois) . . . ×	.45359	= Kilogrammes.
Tons (2000 pounds) . . . ×	.90718	= Tonnes.
Tons (2240 pounds) . . . ×	1.01605	= Tonnes.
Inches ×	2.54001	= Centimetres.
Inches ×	25.4001	= Millimetres.
Feet ×	.304801	= Metres.
Square Inches ×	6.45163	= Square Centimetres.
Square Feet ×	.0929	= Square Metres.
Cubic Inches ×	16.38716	= Cubic Centimetres.
Cubic Feet ×	.02832	= Cubic Metres.
Pounds per Lineal Foot . . ×	1.48816	= Kilogrammes per Lineal Metre.
Pounds per Square Inch. ×	.07031	= Kilogrammes per Square Centimetre.
Pounds per Square Inch. ×	.0007031	= Kilogrammes per Square Millimetre.
Pounds per Square Foot. ×	4.88241	= Kilogrammes per Square Metre.
Pounds per Cubic Foot . . ×	16.01837	= Kilogrammes per Cubic Metre.

METRIC TO CUSTOMARY

Kilogrammes ×	2.20462	= Pounds (Avoirdupois).
Tonnes ×	1.10231	= Tons (2000 pounds).
Tonnes ×	.98421	= Tons (2240 pounds).
Millimetres ×	.03937	= Inches.
Centimetres ×	.3937	= Inches.
Metres ×	3.280833	= Feet.
Square Centimetres. . . ×	.155	= Square Inches.
Square Metres ×	10.76387	= Square Feet.
Cubic Centimetres . . . ×	.06102	= Cubic Inches.
Cubic Metres ×	35.31445	= Cubic Feet.
Kilogrammes per Lineal Metre ×	.67197	= Pounds per Lineal Foot.
Kilogrammes per Square Centimetre ×	14.2234	= Pounds per Square Inch.
Kilogrammes per Square Millimetre. ×	1422.34	= Pounds per Square Inch.
Kilogrammes per Square Metre ×	.20482	= Pounds per Square Foot.
Kilogrammes per Cubic Metre ×	.06243	= Pounds per Cubic Foot.

EQUIVALENTS IN MILLIMETRES

OF INCHES AND FRACTIONS OF AN INCH ADVANCING BY 32nds.

Inches	0"	1"	2"	3"	4"	5"
.. .. 0	.....	25.400	50.800	76.200	101.600	127.000
$\frac{1}{32}$ .. ..	.794	26.194	51.594	76.994	102.394	127.794
.. .. $\frac{1}{16}$	1.588	26.988	52.388	77.788	103.188	128.588
$\frac{3}{32}$	2.381	27.781	53.181	78.581	103.981	129.382
.. .. $\frac{1}{8}$	3.175	28.575	53.975	79.375	104.775	130.175
$\frac{5}{32}$	3.969	29.369	54.769	80.169	105.569	130.969
.. .. $\frac{3}{16}$	4.763	30.163	55.563	80.963	106.363	131.763
$\frac{7}{32}$	5.556	30.956	56.356	81.756	107.156	132.557
.. .. $\frac{1}{4}$	6.350	31.750	57.150	82.550	107.950	133.350
$\frac{9}{32}$	7.144	32.544	57.944	83.344	108.744	134.144
.. .. $\frac{5}{16}$	7.938	33.338	58.738	84.138	109.538	134.938
$\frac{11}{32}$	8.731	34.131	59.531	84.931	110.331	135.732
.. .. $\frac{3}{8}$	9.525	34.925	60.325	85.725	111.125	136.525
$\frac{13}{32}$	10.319	35.719	61.119	86.519	111.919	137.319
.. .. $\frac{7}{16}$	11.113	36.513	61.913	87.313	112.713	138.113
$\frac{15}{32}$	11.906	37.306	62.706	88.106	113.506	138.907
.. .. $\frac{1}{2}$	12.700	38.100	63.500	88.900	114.300	139.700
$\frac{17}{32}$	13.494	38.894	64.294	89.694	115.094	140.494
.. .. $\frac{9}{16}$	14.288	39.688	65.088	90.488	115.888	141.288
$\frac{19}{32}$	15.081	40.481	65.881	91.281	116.681	142.082
.. .. $\frac{5}{8}$	15.875	41.275	66.675	92.075	117.475	142.875
$\frac{21}{32}$	16.669	42.069	67.469	92.869	118.269	143.669
.. .. $\frac{11}{16}$	17.463	42.863	68.263	93.663	119.063	144.463
$\frac{23}{32}$	18.256	43.656	69.056	94.456	119.856	145.257
.. .. $\frac{3}{4}$	19.050	44.450	69.850	95.250	120.650	146.050
$\frac{25}{32}$	19.844	45.244	70.644	96.044	121.444	146.844
.. .. $\frac{13}{16}$	20.638	46.038	71.438	96.838	122.238	147.638
$\frac{27}{32}$	21.431	46.831	72.231	97.631	123.031	148.432
.. .. $\frac{7}{8}$	22.225	47.625	73.025	98.425	123.825	149.225
$\frac{29}{32}$	23.019	48.419	73.819	99.219	124.619	150.019
.. .. $\frac{15}{8}$	23.813	49.213	74.613	100.013	125.413	150.813
$\frac{31}{32}$	24.606	50.006	75.406	100.806	126.206	151.607

12 Inches = 304.8006 Millimetres

EQUIVALENTS IN MILLIMETRES

OF INCHES AND FRACTIONS OF AN INCH ADVANCING BY 32nds.

Inches	6"	7"	8"	9"	10"	11"
.. .. 0	152.400	177.800	203.200	228.601	254.001	279.401
$\frac{1}{32}$	153.194	178.594	203.994	229.394	254.794	280.194
.. .. $\frac{1}{16}$..	153.988	179.388	204.788	230.188	255.588	280.988
$\frac{3}{32}$	154.782	180.182	205.582	230.982	256.382	281.782
.. .. $\frac{1}{8}$	155.575	180.975	206.375	231.775	257.176	282.576
$\frac{5}{32}$	156.369	181.769	207.169	232.569	257.969	283.369
.. .. $\frac{3}{16}$	157.163	182.563	207.963	233.363	258.763	284.163
$\frac{7}{32}$	157.957	183.357	208.757	234.157	259.557	284.957
.. .. $\frac{1}{4}$	158.750	184.150	209.550	234.950	260.351	285.751
$\frac{9}{32}$	159.544	184.944	210.344	235.744	261.144	286.544
.. .. $\frac{5}{16}$	160.338	185.738	211.138	236.538	261.938	287.338
$\frac{11}{32}$	161.132	186.532	211.932	237.332	262.732	288.132
.. .. $\frac{3}{8}$	161.925	187.325	212.725	238.125	263.526	288.926
$\frac{13}{32}$	162.719	188.119	213.519	238.919	264.319	289.719
.. .. $\frac{7}{16}$	163.513	188.913	214.313	239.713	265.113	290.513
$\frac{15}{32}$	164.307	189.707	215.107	240.507	265.907	291.307
.. .. $\frac{1}{2}$	165.100	190.500	215.900	241.300	266.701	292.101
$\frac{17}{32}$	165.894	191.294	216.694	242.094	267.494	292.894
.. .. $\frac{9}{16}$	166.688	192.088	217.488	242.888	268.288	293.688
$\frac{19}{32}$	167.482	192.882	218.282	243.682	269.082	294.482
.. .. $\frac{5}{8}$	168.275	193.675	219.075	244.475	269.876	295.276
$\frac{21}{32}$	169.069	194.469	219.869	245.269	270.669	296.069
.. .. $\frac{11}{16}$	169.863	195.263	220.663	246.063	271.463	296.863
$\frac{23}{32}$	170.657	196.057	221.457	246.857	272.257	297.657
.. .. $\frac{3}{4}$	171.450	196.850	222.250	247.650	273.051	298.451
$\frac{25}{32}$	172.244	197.644	223.044	248.444	273.844	299.244
.. .. $\frac{13}{16}$	173.038	198.438	223.838	249.238	274.638	300.038
$\frac{27}{32}$	173.832	199.232	224.632	250.032	275.432	300.832
.. .. $\frac{7}{8}$	174.625	200.025	225.425	250.825	276.226	301.626
$\frac{29}{32}$	175.419	200.819	226.219	251.619	277.019	302.419
.. .. $\frac{15}{16}$	176.213	201.613	227.013	252.413	277.813	303.213
$\frac{31}{32}$	177.007	202.407	227.807	253.207	278.607	304.007

12 Inches = 304.8006 Millimetres

EQUIVALENTS OF MILLIMETRES IN INCHES.

Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches
1	.029	51	2.008	101	3.978	151	5.945	201	7.913
2	.079	52	2.047	102	4.016	152	5.984	202	7.953
3	.112	53	2.087	103	4.055	153	6.024	203	7.993
4	.157	54	2.126	104	4.095	154	6.063	204	8.033
5	.197	55	2.165	105	4.134	155	6.102	205	8.071
6	.236	56	2.205	106	4.173	156	6.142	206	8.110
7	.276	57	2.244	107	4.213	157	6.181	207	8.150
8	.315	58	2.283	108	4.252	158	6.221	208	8.189
9	.354	59	2.323	109	4.291	159	6.260	209	8.228
10	.394	60	2.362	110	4.331	160	6.299	210	8.268
11	.433	61	2.402	111	4.370	161	6.339	211	8.307
12	.473	62	2.441	112	4.409	162	6.378	212	8.347
13	.512	63	2.480	113	4.449	163	6.417	213	8.386
14	.551	64	2.520	114	4.488	164	6.457	214	8.425
15	.591	65	2.559	115	4.528	165	6.496	215	8.465
16	.630	66	2.598	116	4.567	166	6.535	216	8.504
17	.669	67	2.638	117	4.606	167	6.575	217	8.543
18	.709	68	2.677	118	4.646	168	6.614	218	8.583
19	.748	69	2.717	119	4.685	169	6.654	219	8.622
20	.787	70	2.756	120	4.724	170	6.693	220	8.661
21	.827	71	2.795	121	4.764	171	6.732	221	8.701
22	.866	72	2.835	122	4.803	172	6.772	222	8.740
23	.906	73	2.874	123	4.843	173	6.811	223	8.780
24	.945	74	2.913	124	4.882	174	6.850	224	8.819
25	.984	75	2.953	125	4.921	175	6.890	225	8.858
26	1.024	76	2.992	126	4.961	176	6.929	226	8.898
27	1.063	77	3.032	127	5.000	177	6.969	227	8.937
28	1.102	78	3.071	128	5.039	178	7.008	228	8.976
29	1.142	79	3.110	129	5.079	179	7.047	229	9.016
30	1.181	80	3.150	130	5.118	180	7.087	230	9.055
31	1.220	81	3.189	131	5.158	181	7.126	231	9.095
32	1.260	82	3.228	132	5.197	182	7.165	232	9.134
33	1.299	83	3.268	133	5.236	183	7.205	233	9.173
34	1.339	84	3.307	134	5.276	184	7.244	234	9.213
35	1.378	85	3.346	135	5.315	185	7.284	235	9.252
36	1.417	86	3.386	136	5.354	186	7.323	236	9.291
37	1.457	87	3.425	137	5.394	187	7.362	237	9.331
38	1.496	88	3.465	138	5.433	188	7.402	238	9.370
39	1.535	89	3.504	139	5.472	189	7.441	239	9.410
40	1.575	90	3.543	140	5.512	190	7.480	240	9.449
41	1.614	91	3.583	141	5.551	191	7.520	241	9.488
42	1.654	92	3.622	142	5.591	192	7.559	242	9.528
43	1.693	93	3.661	143	5.630	193	7.598	243	9.567
44	1.732	94	3.701	144	5.669	194	7.638	244	9.606
45	1.772	95	3.740	145	5.709	195	7.677	245	9.646
46	1.811	96	3.780	146	5.748	196	7.717	246	9.685
47	1.850	97	3.819	147	5.787	197	7.756	247	9.724
48	1.890	98	3.858	148	5.827	198	7.795	248	9.764
49	1.929	99	3.898	149	5.866	199	7.835	249	9.803
50	1.969	100	3.937	150	5.906	200	7.874	250	9.843

EQUIVALENTS OF MILLIMETRES IN INCHES.

Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches
251	9.882	301	11.850	351	13.819	401	15.788	451	17.756
252	9.921	302	11.890	352	13.858	402	15.827	452	17.795
253	9.961	303	11.929	353	13.898	403	15.866	453	17.835
254	10.000	304	11.969	354	13.937	404	15.906	454	17.874
255	10.039	305	12.008	355	13.977	405	15.945	455	17.914
256	10.079	306	12.047	356	14.016	406	15.984	456	17.953
257	10.118	307	12.087	357	14.056	407	16.024	457	17.992
258	10.158	308	12.126	358	14.095	408	16.063	458	18.032
259	10.197	309	12.165	359	14.134	409	16.103	459	18.071
260	10.236	310	12.205	360	14.173	410	16.142	460	18.110
261	10.276	311	12.244	361	14.213	411	16.181	461	18.150
262	10.315	312	12.284	362	14.252	412	16.221	462	18.189
263	10.354	313	12.323	363	14.291	413	16.260	463	18.229
264	10.394	314	12.362	364	14.331	414	16.299	464	18.268
265	10.433	315	12.402	365	14.370	415	16.339	465	18.307
266	10.473	316	12.441	366	14.410	416	16.378	466	18.347
267	10.512	317	12.480	367	14.449	417	16.417	467	18.386
268	10.551	318	12.520	368	14.488	418	16.457	468	18.425
269	10.591	319	12.559	369	14.528	419	16.496	469	18.465
270	10.630	320	12.599	370	14.567	420	16.536	470	18.504
271	10.669	321	12.638	371	14.606	421	16.575	471	18.543
272	10.709	322	12.677	372	14.646	422	16.614	472	18.583
273	10.748	323	12.717	373	14.685	423	16.654	473	18.622
274	10.787	324	12.756	374	14.725	424	16.693	474	18.662
275	10.827	325	12.795	375	14.764	425	16.732	475	18.701
276	10.866	326	12.835	376	14.803	426	16.772	476	18.740
277	10.906	327	12.874	377	14.843	427	16.811	477	18.780
278	10.945	328	12.913	378	14.882	428	16.851	478	18.819
279	10.984	329	12.953	379	14.921	429	16.890	479	18.858
280	11.024	330	12.992	380	14.961	430	16.929	480	18.898
281	11.063	331	13.032	381	15.000	431	16.969	481	18.937
282	11.102	332	13.071	382	15.040	432	17.008	482	18.977
283	11.142	333	13.110	383	15.079	433	17.047	483	19.016
284	11.181	334	13.150	384	15.118	434	17.087	484	19.056
285	11.221	335	13.189	385	15.158	435	17.126	485	19.095
286	11.260	336	13.228	386	15.197	436	17.166	486	19.134
287	11.299	337	13.268	387	15.236	437	17.205	487	19.173
288	11.339	338	13.307	388	15.276	438	17.244	488	19.213
289	11.378	339	13.347	389	15.315	439	17.284	489	19.252
290	11.417	340	13.386	390	15.354	440	17.323	490	19.292
291	11.457	341	13.425	391	15.394	441	17.362	491	19.331
292	11.496	342	13.465	392	15.433	442	17.402	492	19.370
293	11.536	343	13.504	393	15.473	443	17.441	493	19.410
294	11.575	344	13.543	394	15.512	444	17.480	494	19.449
295	11.614	345	13.583	395	15.551	445	17.520	495	19.488
296	11.654	346	13.622	396	15.591	446	17.559	496	19.528
297	11.693	347	13.662	397	15.630	447	17.599	497	19.567
298	11.732	348	13.701	398	15.669	448	17.638	498	19.606
299	11.772	349	13.740	399	15.709	449	17.677	499	19.646
300	11.811	350	13.780	400	15.748	450	17.717	500	19.685

EQUIVALENTS OF MILLIMETRES IN INCHES.

Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches
501	19.725	551	21.693	601	23.662	651	25.630	701	27.599
502	19.764	552	21.732	602	23.701	652	25.670	702	27.638
503	19.803	553	21.772	603	23.740	653	25.709	703	27.677
504	19.843	554	21.811	604	23.780	654	25.748	704	27.717
505	19.882	555	21.851	605	23.819	655	25.788	705	27.756
506	19.921	556	21.890	606	23.858	656	25.827	706	27.796
507	19.961	557	21.929	607	23.898	657	25.866	707	27.835
508	20.000	558	21.969	608	23.937	658	25.906	708	27.874
509	20.040	559	22.008	609	23.977	659	25.945	709	27.914
510	20.079	560	22.047	610	24.016	660	25.984	710	27.953
511	20.118	561	22.087	611	24.055	661	26.024	711	27.992
512	20.158	562	22.126	612	24.095	662	26.063	712	28.032
513	20.197	563	22.166	613	24.134	663	26.103	713	28.071
514	20.236	564	22.205	614	24.173	664	26.142	714	28.110
515	20.276	565	22.244	615	24.213	665	26.181	715	28.150
516	20.315	566	22.284	616	24.252	666	26.221	716	28.189
517	20.355	567	22.323	617	24.292	667	26.260	717	28.229
518	20.394	568	22.362	618	24.331	668	26.299	718	28.268
519	20.433	569	22.402	619	24.370	669	26.339	719	28.307
520	20.473	570	22.441	620	24.410	670	26.378	720	28.347
521	20.512	571	22.481	621	24.449	671	26.418	721	28.386
522	20.551	572	22.520	622	24.488	672	26.457	722	28.426
523	20.591	573	22.559	623	24.528	673	26.496	723	28.465
524	20.630	574	22.599	624	24.567	674	26.536	724	28.504
525	20.669	575	22.638	625	24.607	675	26.575	725	28.544
526	20.709	576	22.677	626	24.646	676	26.614	726	28.583
527	20.748	577	22.717	627	24.685	677	26.654	727	28.622
528	20.788	578	22.756	628	24.725	678	26.693	728	28.662
529	20.827	579	22.795	629	24.764	679	26.733	729	28.701
530	20.866	580	22.835	630	24.803	680	26.772	730	28.740
531	20.906	581	22.874	631	24.843	681	26.811	731	28.780
532	20.945	582	22.914	632	24.882	682	26.851	732	28.819
533	20.984	583	22.953	633	24.921	683	26.890	733	28.859
534	21.024	584	22.992	634	24.961	684	26.929	734	28.898
535	21.063	585	23.032	635	25.000	685	26.969	735	28.937
536	21.103	586	23.071	636	25.040	686	27.008	736	28.977
537	21.142	587	23.110	637	25.079	687	27.047	737	29.016
538	21.181	588	23.150	638	25.118	688	27.087	738	29.055
539	21.221	589	23.189	639	25.158	689	27.126	739	29.095
540	21.260	590	23.229	640	25.197	690	27.166	740	29.134
541	21.299	591	23.268	641	25.236	691	27.205	741	29.173
542	21.339	592	23.307	642	25.276	692	27.244	742	29.213
543	21.378	593	23.347	643	25.315	693	27.284	743	29.252
544	21.418	594	23.385	644	25.355	694	27.323	744	29.292
545	21.457	595	23.424	645	25.394	695	27.362	745	29.331
546	21.496	596	23.464	646	25.433	696	27.402	746	29.370
547	21.536	597	23.503	647	25.473	697	27.441	747	29.410
548	21.575	598	23.543	648	25.512	698	27.481	748	29.449
549	21.614	599	23.582	649	25.551	699	27.520	749	29.488
550	21.654	600	23.622	650	25.591	700	27.559	750	29.528

EQUIVALENTS OF MILLIMETRES IN INCHES.

Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches	Milli- metres	Inches
751	29.567	801	31.536	851	33.504	901	35.473	951	37.44
752	29.607	802	31.575	852	33.544	902	35.512	952	37.48
753	29.646	803	31.614	853	33.583	903	35.552	953	37.52
754	29.685	804	31.654	854	33.622	904	35.591	954	37.55
755	29.725	805	31.693	855	33.662	905	35.630	955	37.59
756	29.764	806	31.733	856	33.701	906	35.670	956	37.63
757	29.803	807	31.772	857	33.740	907	35.709	957	37.67
758	29.843	808	31.811	858	33.780	908	35.748	958	37.71
759	29.882	809	31.851	859	33.819	909	35.788	959	37.75
760	29.922	810	31.890	860	33.859	910	35.827	960	37.79
761	29.961	811	31.929	861	33.898	911	35.866	961	37.83
762	30.000	812	31.969	862	33.937	912	35.906	962	37.87
763	30.040	813	32.008	863	33.977	913	35.945	963	37.91
764	30.079	814	32.048	864	34.016	914	35.985	964	37.95
765	30.118	815	32.087	865	34.055	915	36.024	965	37.99
766	30.158	816	32.126	866	34.095	916	36.063	966	38.03
767	30.197	817	32.166	867	34.134	917	36.103	967	38.07
768	30.236	818	32.205	868	34.174	918	36.142	968	38.11
769	30.276	819	32.244	869	34.213	919	36.181	969	38.15
770	30.315	820	32.284	870	34.252	920	36.221	970	38.19
771	30.355	821	32.323	871	34.292	921	36.260	971	38.23
772	30.394	822	32.362	872	34.331	922	36.300	972	38.26
773	30.433	823	32.402	873	34.370	923	36.339	973	38.30
774	30.473	824	32.441	874	34.410	924	36.378	974	38.34
775	30.512	825	32.481	875	34.449	925	36.418	975	38.38
776	30.551	826	32.520	876	34.488	926	36.457	976	38.42
777	30.591	827	32.559	877	34.528	927	36.496	977	38.46
778	30.630	828	32.599	878	34.567	928	36.536	978	38.50
779	30.670	829	32.638	879	34.607	929	36.575	979	38.54
780	30.709	830	32.677	880	34.646	930	36.615	980	38.58
781	30.748	831	32.717	881	34.685	931	36.654	981	38.62
782	30.788	832	32.756	882	34.725	932	36.693	982	38.66
783	30.827	833	32.796	883	34.764	933	36.733	983	38.70
784	30.866	834	32.835	884	34.803	934	36.772	984	38.74
785	30.906	835	32.874	885	34.843	935	36.811	985	38.78
786	30.945	836	32.914	886	34.882	936	36.851	986	38.81
787	30.985	837	32.953	887	34.922	937	36.890	987	38.85
788	31.024	838	32.992	888	34.961	938	36.929	988	38.89
789	31.063	839	33.032	889	35.000	939	36.969	989	38.93
790	31.103	840	33.071	890	35.040	940	37.008	990	38.97
791	31.142	841	33.111	891	35.079	941	37.048	991	39.01
792	31.181	842	33.150	892	35.118	942	37.087	992	39.05
793	31.221	843	33.189	893	35.158	943	37.126	993	39.09
794	31.260	844	33.229	894	35.197	944	37.166	994	39.13
795	31.299	845	33.268	895	35.237	945	37.205	995	39.17
796	31.339	846	33.307	896	35.276	946	37.244	996	39.21
797	31.378	847	33.347	897	35.315	947	37.284	997	39.25
798	31.418	848	33.386	898	35.355	948	37.323	998	39.29
799	31.457	849	33.426	899	35.394	949	37.363	999	39.33
800	31.496	850	33.465	900	35.433	950	37.402	1000	39.37

INDEX.

Agricultural Implement Seats	148-151
" " Seat Springs	152, 153
Alloy Steels	39
American Screw Co., Screw Wire Gauge	243
American Wire Gauge	243
Anchor Plates	39
Angles, Standard and Special	8-11
" Special Shapes	12
Armature Segment Section	87
Auger Blades	111
" Steel	58, 59
Automobile and Motor Truck Rim Sections	14-38
Adjusting Rings	37
Bands	24-29
Base Bands	24-28
" Stock	23
Center Rings	31
" Wedge Rings	31, 32
Felloe Bands	29
Flanges	30, 31
Locking Case	38
" Rings	38
Rims	16-23
Rim Lock	38
Side Clamp	37
" Flanges	30, 31
" Rings	33-37
" Wedge Rings	36
Wedge Rings	31, 32, 36
Automobile Body Moulding	119
" Spring Steel	13, 113
" Steel	13
Axe Poll Steel	39
Axles	49
Axle Steel	39
Baby Carriage Crescent Tire	67
" " Spring Steel	113
Bale Ties, Wire	39
Bands, Flat	41
" Pipe or Tank	97
Band Steel, Weights of	240
Barbed Wire	41

Bar Steel for Concrete Reinforcement	62-66
Barn Door Rail	41
Barrel Hoop Steel	41
Bars, Cold Rolled and Cold Drawn	60, 61
" Concrete Reinforcement	62-66
" Flat, Weights of	226-237
" Round, Square and Flat	40
" Sheet and Tin	40
" Square and Round, Weights of	222-225
Beaded Flat	41
Beams, Bar Size I	43, 154
" Cultivator	154
" Plow	155, 156
" Standard and Special I	42, 43, 154
Belt Rail Steel	44
Bevel Edge Steel	157-163
Billets	44
Birmingham Standard Sheet and Hoop Gauge (B. G.)	243
Birmingham Wire Gauge (B. W. G.)	241, 243
Blades, Auger	111
" Coulter	170, 171
" Digger	177
Blooms	44
Bolt Ends	45
" Steel	45
Bolts, Blank	45
" Machine	45
" Track	45
Box Lid Springs	114
Braces, Rail	100
Brake Beam Steel	46, 54
Brake Pins	46
Bridge Rods	45
British Imperial Wire Gauge	243
Brown and Sharpe Wire Gauge	243
Buckle Plates	46
Buckles, Tie	123
Buffer Springs	46
Buggy Springs	46
Bulb Angles	47, 48
" Bar	48
Bull Tongues	164, 174
Bundle Carrier Teeth	164, 165
Cant Hook Steel	48
Car Axles	49

Car Forgings	50, 51
“ Shapes, Pressed Steel	99
Carriage Spring Steel	113
Cars (Steel)	50
Chain Rods	52
Chains	169
Chair Seat Frames	111
Channels, Chain Guide	55
“ Crescent	57
“ Fence	55
“ for Agricultural Implement Frames, Etc.	166-168
“ “ Cushion Tire	57
“ “ Solid Rubber Tire	56
“ “ Special Service	54
“ Ship	53
“ Standard and Special	52, 53
“ Tire	56, 57
Check Rower Fork Steel	169
“ “ Steel	169
Chime Hoop Bar	41
Circle and Quarter Circle Shapes	218
Circular Plates	98
Clamp, Rope	104
Clip Steel	58
Coal Drill Steel	58, 59
Coil Springs	114
Cold Rolled and Cold Drawn Bars	60, 61
“ “ “ “ “ Steel	60, 61
Concave Spring Steel	113
“ Tire	125
Concrete Reinforcement Bars	62-66
“ “ “ “ Specifications for	63
Conversion Factors, Metric	247
Corn Planter Runners	205
“ “ Runner Steel	205
Cotter Pin Steel	81
Cotton Planter Wheels	184
“ Tie Buckles	123
Coulter Blades	170-171
“ Steel	170
Coupling Link Steel	67
Crank Pins	67
Crescents	67, 68
Crucible Analysis Plow Steel	191
“ “ Spring Steel	113

Crucible Analysis Steel	113
Cultivator Bars	176, 177
" Beams	154
" Bevels	157
" Feet	174
" Fenders	175
" Points	174
" Springs	208, 209
" Steel	177
" Teeth	172-174, 176
Cushion Tire Channels	57
" Springs	68
Cutaway Disks	178-184
Cutlery Steel	68
Cutter Shoes	68
Cylinder Knife Bar	177
Decimal Gauge, Standard	242
Decimals of an Inch for each $\frac{1}{16}$ th	246
Deformed Bars	62-66
Diamond Shape Steel	69
Die-Block Steel	69
Digger-Blades	177
Digger-Blade Steel	177
Disks	178-184
Dock Spikes	69
Door Spreader Bar	69
Double Bevels	160, 161
Double Half Ovals	59
Drag Teeth (Harrow Teeth)	186, 187
Draw Bar Key Steel	85
Drawn Steel	60
Drill Disks	178-184
" Points	185
" Point Steel	157-163
" Post	70
" Runners	185
" Runner Steel	205
" Springs	185
" Steel for Coal Drills, Augers, Etc.	58, 59
Drop Forging Steel	70
Edged Plates	98
" Steel, Bevel	157-163
Elevator Tees	118
"ENDURIA" Steel	112
English Legal Standard Wire Gauge	243

Equivalents for Metric System Conversion	246-253
Extension Rails	102
Factors for Metric Conversion	247
Fence Clamp Bar	74
" Posts, Metal	71-73
" Staples	115
Fencing, Wire	74
File Steel	74, 75
Finger Bars	188, 189
" Bar Blanks	188
Fitted Structural Steel	115
Flat Plow Shapes	192-199
" Rolled Strips or Bands	41
" " " , Weights of	240
Flats	76, 77
" , Weights of	226-237
Forgings, Car	50, 51
" Special, for Shafts, Piston Rods, Etc.	78
Fork Steel	78
" " Check Rower	169
Forks, Tedder	212-214
Frames, Chair Seat	111
Garden Rake Steel	205
Grain Drill Steel	157, 185, 205
Grate Bar Steel	135
Grooved Rounds	104
Gauge, Standard Decimal	242
Gauges for Wire and Sheet Metal	240-243
Guide Bar	78
" Rounds	104
Gun Barrel Steel	78
Half Ovals	79, 80
" Rounds	81
Hame Back Steel	82
Hammer Steel	82
Hand Rounds	104
Harrow Disks	178-184
" Teeth (Drag Teeth)	186, 187
" " , Spring	210, 211
" Tooth Steel	190
Harvester Knife	218
Hatch Section	146
Hatchet Steel	82
Heads	83
Heel Sweep Bar	190

Hexagons	83
Hinges	111
Hinge Steel	83
Hoe Point Beveled Steel	190
" Steel	190
Hollow Half Rounds	81
Hoop Steel	41
" " , Weights of	240
Horse Shoe Steel	84
I-Beams	42, 154
I-Bar, Special Shape	177
Implement Seats	148-151
Inch Equivalents for Millimetres	246-253
Ingots	84
Iron Finish Machinery Steel	86
Jumper Rails	102
Key Steel	85
Knife Backs	191
" Blades, Agricultural	157, 207, 218
Knuckle Pins	85
Lay Steel	191
Lazy Back Steel	85
Leveler Springs	208, 209
Lever Bar	85
Lightning Rod Steel	86
Links and Pins	86, 96
Machine Bolts	45
Machinery Steel	86
Magneto Steel	87
Mattock Steel	87
Mensuration	244, 245
Metric Conversion Factors	247
" Conversion Tables	246-253
Millimetre Equivalents for Inches	246, 248, 249
Motor Cycle Seat Springs	114
Motor Truck and Automobile Rim Sections	14-38
Adjusting Rings	37
Bands	24-29
Base Bands	24-28
" Stock	23
Center Rings	31
" Wedge Rings	31, 32
Felloe Bands	29
Flanges	30, 31
Locking Case	38

Motor Truck and Automobile Rim Sections, continued

Locking Rings	38
Rims	16-23
Rim Lock	38
Side Clamp	37
" Flanges	30, 31
" Rings	33-37
" Wedge Rings	36
Wedge Rings	31, 32, 36
Moulding Section	119
Mower Bars	188, 189
Mine Cars	87
" Ties	120-122
Nails, Wire	88, 89
Nuts	89
Nut Lock Steel	90
" Steel	90
Octagons	90
Ovals	91-93
Pedal Crank Steel	93
Pedestal Way Liners	93
Piano Bar Steel	94
Pick Steel	94
Piling, Sheet	95
Pin Steel for Cotter Pins	81
" " " Crank Pins, Rocker Pins, Etc.	95
Pins and Links	96
" , Crank	67
Pipe Bands	97
" , Riveted Steel	95
Piston Rods	95
Pitman Bar	98
Planished Steel	99
Plate Washers	98
Plates, Buckle	46
" Circular and Sketch	98
" Sheared and Universal	98
" Thin, Weights of, per Square Foot	241, 242
" Weights of, per Lineal Foot	226-237
" " " Square "	241
Plow Beams	155, 156
" Disks	178-184
" Feet	174
" Shapes	192-199
" Steel	191

Pole Piece Steel	87
Post Hole Digger Blades	200
Potato Digger Shovels	219
" " Tines	200, 201
Poultry Fence	99
" Netting Staples	99
Pressed Steel Car Shapes	99
" " Seats	148-151
Pressure Springs	208, 209
P. R. R. Analysis Spring Steel	113
Pulley Rim Steel	100
Quarter Circle Shapes	218
Rail Braces	100
" Anchor Bars	100
" Clip Bar	100
" for Barn Doors	41
Railroad Ties	120
" Tie Plates	101
Rails, Extension or "Jumper"	102
" Guard	102
" (T.)	102
Rake Steel	205
" Teeth	202-204
Ratchet Springs	102
Reach Plate	77
Reinforcement Bars for Concrete	62-66
"RESILIA" Steel	112
Rim Sections, Automobile and Motor Truck	14-38
Riveted Pipe	95
Rivet Steel	103
Rivets	103
Rocker Plate Steel	103
Rod Steel, Lightning	86
Rods, Bridge and Roof	45
" Chain	103
" Wire	103
Roebblings Sons Co., John A., Wire Gauge	243
Roller Steel	103
Rolling Coulter Blades	170, 171
" " Blanks	170, 171
Roof Rods	45
Rope Clamp	104
Round Bars	104
" " Weights of	222-225
" Corner Steel	77

Round Edge Steel	76
" " Tire	76, 127
" " Weights of (per Set)	238
" " " " (per Lineal Foot)	239
Round, Grooved	104
Rounds (Bars)	104
R. R. Spring Steel	113
Rubber Tire Shapes, Solid	56, 124
Runner Steel	205
" " Bars	206
Saw Mill Track Bar	104
Sash Steel, Window	140-145
Scooter Springs	105
Scrap Steel	105
Scraper Springs	208, 209
Screen Bars, Window	139
Screw Wire Gauge	243
Scythe Back Steel	206
Seat Frames, Chair	111
Seats for Agricultural Implements	148-151
Seat Springs	152, 153
" Spring Steel	206
Seeder Point Steel	206
Separators, Cast Iron, for I-Beams and Channels	105
Shaft (Axle) Steel	207
" Steel, Special	80
Shafting	105
Shear Cut Disks	178-184
Sheared Plates	98
Sheet Bars	40
" Metal Gauges	243
" Piling	95
Sheets	40, 98
" Weights of, per Square Foot	241, 242
Shim Steel	106
Ship Channels	53
Ship Steel	105
Shoe Plates	106
Shovels for Potato Diggers	219
Shovel Steel	106
Sickle Steel	107
Side Stake Steel for Cars, Etc.	107
Single Bevels	158, 159
Skein Blanks	207
" Blank Steel	207

Slabs	107
Sled Runner Steel	68, 108, 116
Sleigh Shoe Steel	108, 109
Smooth Finish Machinery Steel	86
Soft Steel	110
Spade Blades, Tiling	219
Special Steel Shapes	111
Specifications for Concrete Reinforcement Bars	63
Spikes, Dock or Wharf	110
" Wire	88
Splice Bars	110
Spoke Steel	110
Spring Harrow Tooth Steel	210
" Steel, Automobile, Carriage, Railroad, Etc.	112, 113
" Concave	113
" Clip Steel	58
" Harrow Teeth	210, 211
Springs, Box Lid, Buffer, Coil, Etc.	114
" for Agricultural Implements	208, 209
" " Implement Seats	152, 153
" Special Form	114
Squares (Bars)	40
Square Bars, Weights of	222-225
Stalk Cutter Knife Steel	158, 207, 218
Standard Decimal Gauge	242
Standards, Truck	111
Staples, Wire	115
Strips, Weight of Flat Rolled	240
Structural Steel, Fitted and Plain	115
Stubs Iron Wire Gauge	243
Supports for Wagon Tongues	215
Suspension Springs	208, 209
Sweeps	212
Switch Point Bar Steel	115
Tank Bands	97
Tapered Flats	116
" Rods	116
T-Bars	116-119
Tedder Forks	212-214
" Fork Springs	212, 213
" Teeth	212-214
Tees	116-119
Teeth, Bundle Carrier	164, 165
" Cultivator	172-177
" Drag Harrow	186, 187

Teeth, Rake	202-204
" Spring Harrow	210, 211
" Tedder	212-214
" Weeder	216, 217
Thin Sheared Plates	40, 98
" Plates, Weights of, per Square Foot	241, 242
Tie Buckle Bars	124
" Buckles	123
Ties, Bale (Wire)	39
" for Mine Track, Etc.	120-122
Tin Bars	40
Tines, Potato Digger	200, 201
Tire Channels	56, 57, 166
" Concave	125
" Crescent for Baby Carriages, Etc.	67, 68
" Round Edge	76, 127
" " " Weights of, per Set	238
" " " " " Foot	239
" Steel	126, 127
Tire Shapes for Solid Rubber Tire	56, 124
Toe Calk Steel	132-135
" Calks	128-131
Tongue Supports, Wagon	215
Track Bolts	135
Triangle Bar Steel	135
Truck Bolster Bar	138
Truck Standards	111
Turbine Filler Steel	136, 137
Twisted Bars for Concrete Reinforcement	137
Universal Plates	98
U. S. Standard Gauge	243
Vehicle Steel	138
Wagon Tongue Supports	215
" Box Steel	138
Washer Bar	138
Washers, Plate	139
Washburn & Moen Wire Gauge	243
Wedge Shape Bevels, Blunt	162, 163
" Steel	138
Weeder Teeth	216, 217
Weights of Flat Rolled Steel Bars	226-237
" " " " Strips, Hoop or Band Steel	240
Weights of Round Edge Tire Steel, per Set	238
" " " " " Lineal Foot	239
" " Square and Round Bars, per Lineal Foot	222-225

Weights of Steel Sheets and Plates, per Square Foot . . .	241, 242
Wharf Spikes	69
Wheels, Cotton Planter	184
Window Sash Steel	140-145
" Screen Bars	139
Wire Bale Ties	39
" Fencing	74
" Gauges	241-243
" Nails	88, 89
" Poultry Fence	99
" Products	145
" Rods	103
" Staples	115
Z-Bar (Hatch Section)	146



Eng 319.17

Cambria steel bars and "Gautier" sp

Cabot Science

004300555



3 2044 091 991 208